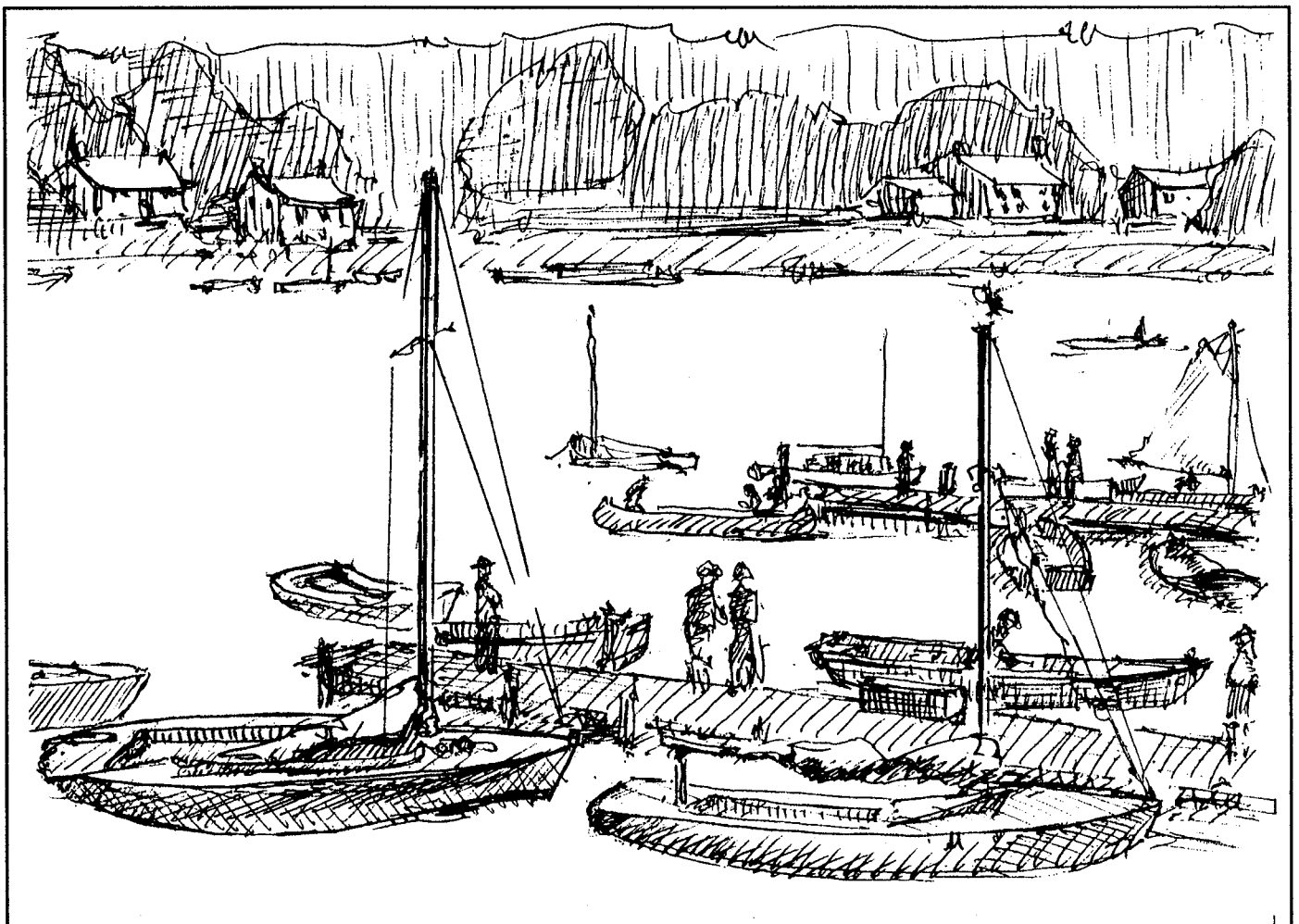




BOATING STATISTICS 1990



JUNE 1991
COMDTPUB P16754.4



COMDTPUB P16754.4

COMMANDANT PUBLICATION P16754.4

12 JUN 1991

FOREWORD

Under the authority of Title 46, United States Code, the Chief, Office of Navigation Safety and Waterway Services has been delegated the responsibility to collect, analyze, and annually publish statistical information obtained from recreational boat numbering and casualty reporting systems. Within this Office, the Auxiliary, Boating, and Consumer Affairs Division has Recreational Boating Safety Program responsibility.

Boating Statistics 1990, the 32nd annual report, contains statistics on recreational boating accidents, State and Coast Guard boat numbering activities, and Coast Guard Auxiliary programs. The report also contains summaries of all regulations issued by the Coast Guard under the authority of Title 46, United States Code, and other safety program information.

This report is a result of the coordinated effort of the Coast Guard and those jurisdictions which have Federally approved boat numbering systems. These include the District of Columbia, Puerto Rico, Guam, the Virgin Islands, American Samoa, the Commonwealth of the Northern Mariana Islands, and all States except Alaska.

This publication is distributed to Coast Guard units, Coast Guard Auxiliary flotillas, and to other organizations and individuals on the mailing list. The publication may be copied freely in the interest of boating safety. For questions on content, availability of the current or back issues, and additions to the mailing list, use the address or telephone number at the top of this page.

JOHN W. LOCKWOOD
Captain, U.S. Coast Guard
Chief, Office of Navigation
Safety and Waterway Services

DISTRIBUTION - SDL No. 129

| | a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t | u | v | w | x | y | z |
|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | | | 1 | | 1 | 1 | | | | | | | 1 | | | | | |
| B | | 2 | * | 1 | 12 | | | 2 | | 2 | | 2 | | 5 | 5 | | 1 | 2 | | | 2 | | | | | 2 |
| C | 2 | 2 | | 1 | 2 | | | | 1 | | 1 | 1 | 1 | | | 1 | | 1 | | 1 | | | 1 | | | 3 |
| D | 1 | 1 | 1 | 2 | | | | 2 | | 1 | | | | | | | | | | | | | | | | |
| E | 1 | | | | | | | | | 5 | 5 | 5 | | 1 | 1 | | | | | 1 | | | | | | |
| F | 1 | 1 | | 1 | 1 | | | 1 | | | | 1 | | 1 | 2 | | 1 | 1 | | 1 | | | | | | |
| G | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H | | | | | | | | | | | | | | | | | | | | | | | | | | |

* NON-STANDARD DISTRIBUTION: * (See page 2)

COMMANDANT PUBLICATION P16754.4

1 2 JUN 1991

*** Non Standard Distribution**

| | | | | |
|------------|-------------------|-------------------|--------------------|--------------------|
| B:c | CCGD1(125) | CCGD2(150) | CCGD5(200) | CCGD7(50) |
| | CCGD8(150) | CCGD9(100) | CCGD11(200) | CCGD13(150) |
| | CCGD14(50) | CCGD17(50) | | |

Coast Guard Auxiliary:

**PNACO
National Board
Department Chiefs
Directors of Auxiliary**

| | | | |
|------------------|-------------------|-------------------|------------------|
| 1NR - 125 | 1SR - 200 | 2NR - 100 | 2SR - 55 |
| 2WR - 100 | 2ER - 75 | 5NR - 125 | 5SR - 200 |
| 7 - 150 | 8 - 100 | 9CR - 75 | 9ER - 80 |
| 9WR - 85 | 11SR - 150 | 11NR - 100 | 13 - 125 |
| 14 - 25 | 17 - 25 | | |

TABLE OF CONTENTS

| | |
|--|----|
| Introduction | 1 |
| Accident Reporting | 1 |
| Boat Numbering | 3 |
| Statistical Tables and Illustrations | 4 |
| Fatality Rate | 7 |
| Reporting of Alcohol Involvement | 16 |
| U.S. Coast Guard Auxiliary | 25 |
| Boating Safety Education | 26 |
| Boating Safety and Product Assurance | 26 |
| Consumer Information and Assistance | 27 |
| Boating Safety Regulations | 28 |
| Glossary | 32 |
| Boating Accident Report Form (CG-3865) | 34 |

LIST OF ILLUSTRATIONS

| | |
|--|----|
| Numbering Data by State | 4 |
| Numbered Vessels Per Square Mile | 5 |
| Numbered Vessels Per 1000 People | 5 |
| Classification of Numbered Motorboats | 6 |
| Recreational Boating Fatality Statistics 1980 - 1990 | 8 |
| Fatalities Per 100,000 Numbered Boats | 9 |
| Fatalities - 1990 (Geographic Distribution) | 9 |
| Five Year Summary of Boating Accidents | 10 |
| Jurisdiction of Boating Accidents By State | 12 |
| Accident Data By State | 13 |
| Types of Accidents By State | 14 |
| Five Year Summary of Selected Accident Data By State 1986 - 1990 | 15 |
| Types of Boating Accidents | 16 |
| Alcohol Involvement In Boating Accidents | 17 |
| Causes of Boating Accidents | 18 |
| Operation At Time Of Accidents | 19 |
| Vessel Information | 20 |
| Operator Information | 21 |
| Weather And Water Conditions | 22 |
| Miscellaneous Data | 23 |
| Fatalities And Accidents During The Week | 24 |

INTRODUCTION

SCOPE

This report contains statistics on numbered boats and recreational boating accidents and information on boating safety activities for calendar year 1990. States and jurisdictions which have Federally approved boat numbering systems file official reports to provide the boat numbering statistics. Coast Guard numbering records cover the State of Alaska, which does not have an approved numbering system. Data for the accident statistics come from three sources: copies of Boating Accident Reports forwarded to the Coast Guard by those jurisdictions with an approved numbering and casualty reporting system; reports submitted directly to the Coast Guard in Alaska; and reports of Coast Guard investigations of fatal boating accidents that occurred on waters under Federal jurisdiction.

ACCIDENT REPORTING

Current regulations (33 CFR 173-4) require that the operator of any vessel that is numbered or used for recreational purposes file a report if the vessel is involved in an accident that results in:

1. Loss of life; or
2. Personal injury which required medical treatment beyond first aid; or
3. Damage to the vessel and other property exceeding \$500; or
4. Complete loss of the vessel.

Boat operators are required to report their accidents to authorities of the State in which the accident occurred, or directly to the Coast Guard if it occurred in Alaska. States with approved numbering systems furnish the Coast Guard with copies of Boating Accident Reports. The minimum reporting requirements are set by Federal regulation, but States are allowed to have stricter requirements. The statistics in this publication cover only accidents meeting the Federal minimum reporting requirements.

Most States use Boating Accident Report forms which are very similar to the Coast Guard form. A copy of the Coast Guard form is at the end of this report. Microfiche of Boating Accident Reports and investigation reports are filed at Coast Guard Headquarters for statistical purposes only.

The statistics in this publication cover boating accidents reported on waters of joint Federal and State jurisdiction and exclusive State jurisdiction. The statistics include any reports received of accidents on waters under exclusive jurisdiction of Alaska, even though the reports are not required.

Accidents covered in this report occurred during calendar year 1990. Only those reported to Coast Guard Headquarters by April 5, 1991 are included in the statistics.

CASES EXCLUDED FROM REPORT

The following types of cases involving recreational boats are not included in this report:

1. Accidents involving only slight injury which did not require medical treatment beyond first aid or involving property damage of not more than \$500;
2. Accidents which were not caused or contributed to by a vessel, its equipment or its appendages;
3. Accidents in which the boat was used solely as a platform for other activities, such as swimming or skin diving. Eight fatalities from such accidents were reported by the States in 1990. Such cases are not included because the victims freely left the safety of their boat. However, if the victim is struck by another boat, the accident is reportable because of the involvement of the striking boat.

Accidents involving only commercial vessels are not included. All commercial accidents, even those involving vessels numbered under Title 46, United States Code, are reviewed and tabulated by the Coast Guard Office of Marine Safety, Security and Environmental Protection and published in the Proceedings of the Marine Safety Council, CG-129.

USE OF THE STATISTICS

Users of the statistics in this report should be aware of the following facts which may affect results of analyses of non-fatal accidents:

1. The Boating Accident Reporting System does not include every accident involving a recreational vessel. Some accidents are not in the system because they are not required to be reported. Many more accidents are not reported because of ignorance of the law and difficulty in enforcing the law. We believe that only a small fraction of all non-fatal boating accidents occurring in the United States are reported to the Coast Guard or to local or State law enforcement agencies. The reporting rates of subgroups of accidents, such as those involving personal watercraft, propeller strikes, or whitewater, probably differ greatly depending upon unspecified variables. We do believe, however, that nearly all recreational boating fatalities are included in these statistics.

2. Federal regulations do not require the reporting of accidents on private waters, where States have no jurisdiction, or on State waters in Alaska, which does not have an approved numbering system. Reports of accidents on such waters are included in this report when received by the Coast Guard if they satisfy the other requirements for inclusion.

3. Non-fatal accidents cannot be assumed to have occurred in numbers proportional to the reported statistics because the act of reporting an accident is not a random sampling of accidents in the statistical sense. Rather, selection is based on the ability and willingness of those involved to file a report.

4. Fluctuations from year to year in non-fatal accident statistics may be caused by factors other than the change in the total number of recreational boating accidents. A seemingly small change in the low reporting rate may cause a relatively large change in the statistics.

BOAT NUMBERING

Chapter 123 of Title 46, United States Code requires each undocumented vessel equipped with propulsion machinery to be numbered in the State in which it is principally operated. The law allows the States and other jurisdictions to create their own numbering systems as long as they meet or exceed Federal requirements. At the end of 1990, only Alaska lacked its own approved numbering system. In that jurisdiction the Coast Guard performs the numbering function and requires only undocumented vessels equipped with propulsion machinery used on waters subject to the jurisdiction of the United States to be numbered. Many States (27) require the numbering of non-powered boats, such as sailboats. A list of the numbering requirements of the States is found on the following page.

The statistics on the following three pages are derived from reports which the participating States and other jurisdictions file with the Coast Guard. The statistics are actual counts of valid boat numbers which have been issued. Their accuracy is affected by several factors, including compliance of the boat owners with the numbering laws and the efficiency with which the various State numbering systems handle expired and new registrations. The numbering requirements for each jurisdiction are given so that comparisons may be made. Estimates are provided for non-reporting jurisdictions based on the growth in numbering as reported in the past.

Note: The Coast Guard asked the reporting jurisdictions to replace the category of "steel" hull material with "inflatable" on their 1990 boat numbering reports. Steel boats are now included with aluminum boats in the new category "metal". This new information appears in the table, Classification of Numbered Motorboats by Propulsion and Hull Material, on page 6. The reason for the change is that inflatables are a greater safety concern and are increasing in numbers while numbers of steel boats are decreasing. Almost 60 percent of the reporting jurisdictions were able to provide information on inflatables in the first year we asked. Inflatables were previously included in the "other" category. It is estimated that only 60 percent of numbered inflatables are counted in the new category.

NUMBERING DATA BY STATE

| | | TOTAL BOATS NUMBERED | | SCOPE OF CURRENT BOAT NUMBERING SYSTEM |
|----------------|------|----------------------|---------------------|--|
| | | 1990 | 1989 | |
| TOTAL | | 10,996,253 | 10,777,370 | |
| | RANK | | | |
| Alabama | 18 | 231,985 | 214,151 | All motorboats, sailboats and rental boats |
| *Alaska | 49 | 30,911 | 29,665 | All motorboats used on Federal waters |
| Arizona | 29 | 143,334 | 142,858 | All watercraft |
| Arkansas | 28 | 150,020 | 146,490 | All motorboats with exceptions ² |
| California | 2 | 792,930 | 752,836 | All motorboats; sailboats over 8 feet in length |
| Colorado | 35 | 80,549 | 82,653 | All motorboats and sailboats |
| Connecticut | 32 | 100,366 | 98,254 | All motorboats; sailboats 19.5 feet or more in length |
| Delaware | 44 | 40,139 | 41,019 | All motorboats |
| Dist. of Col. | 52 | 6,131 | 4,895 | All watercraft |
| Florida | 4 | 681,240 | 710,831 | All motorboats |
| Georgia | 14 | 274,081 | 270,134 | All motorboats; sailboats 12 feet or more in length |
| Hawaii | 51 | 14,081 | 13,501 | All motorboats; sailboats over 8 feet in length |
| Idaho | 36 | 64,180 | 63,421 | All motorboats |
| Illinois | 9 | 350,235 | 339,979 | All motorboats; sailboats over 12 feet in length |
| Indiana | 15 | 273,759 | 218,228 | All motorboats |
| Iowa | 21 | 192,645 | 158,258 | All watercraft with exceptions ³ |
| Kansas | 33 | 90,255 | 89,888 | All motorboats and sailboats |
| Kentucky | 30 | 139,852 | 113,166 | All motorboats |
| Louisiana | 11 | 288,011 | 283,467 | All motorboats |
| Maine | 31 | 112,559 | 132,039 | All motorboats |
| Maryland | 25 | 177,396 | 173,523 | All motorboats |
| Massachusetts | 23 | 186,338 | 250,250 | All motorboats |
| Michigan | 1 | 848,584 | 856,749 | All motorboats |
| Minnesota | 3 | 714,802 | 706,085 | All watercraft with exceptions ⁴ |
| Mississippi | 24 | 182,378 | 170,515 | All motorboats and sailboats |
| Missouri | 16 | 272,442 | 263,841 | All motorboats; sailboats over 12 feet in length |
| Montana | 40 | 43,360 | 40,000 ¹ | All motorboats; sailboats 12 feet or more in length |
| Nebraska | 38 | 58,683 | 57,268 | All motorboats |
| Nevada | 41 | 42,694 | 40,603 | All motorboats |
| New Hampshire | 34 | 82,035 | 77,229 | All watercraft |
| New Jersey | 27 | 164,539 | 158,253 | All motorboats; all other boats over 12 feet in length |
| New Mexico | 46 | 32,200 | 35,481 | All motorboats and sailboats |
| New York | 7 | 425,756 | 419,956 | All motorboats |
| North Carolina | 13 | 275,424 | 267,446 | All motorboats |
| North Dakota | 45 | 36,186 | 43,507 | All motorboats |
| Ohio | 8 | 378,249 | 380,412 | All watercraft |
| Oklahoma | 22 | 188,781 | 184,703 | All watercraft except jonboats with less than 10 hp |
| Oregon | 26 | 173,572 | 165,771 | All motorboats; sailboats 12 feet or more in length |
| Pennsylvania | 12 | 286,826 | 279,159 | All motorboats |
| Rhode Island | 47 | 31,931 | 36,775 | All watercraft |
| South Carolina | 10 | 319,132 | 302,282 | All motorboats |
| South Dakota | 39 | 53,413 | 49,674 | All motorboats; all other boats over 12 feet in length |
| Tennessee | 17 | 241,632 | 233,403 | All motorboats and sailboats |
| Texas | 5 | 606,942 | 603,709 | All motorboats |
| Utah | 37 | 59,869 | 58,464 | All motorboats and sailboats |
| Vermont | 42 | 41,852 | 37,437 | All motorboats |
| Virginia | 20 | 202,600 | 196,119 | All motorboats |
| Washington | 19 | 214,043 | 195,791 | All motorboats; sailboats 16 feet or more in length |
| West Virginia | 43 | 40,880 | 49,356 | All motorboats |
| Wisconsin | 6 | 497,080 | 482,336 | All motorboats; sailboats over 12 feet in length |
| Wyoming | 50 | 22,940 | 22,476 | All motorboats |
| Guam | 55 | 512 ¹ | 512 | All motorboats |
| Puerto Rico | 48 | 31,159 | 28,149 | All motorboats |
| Virgin Islands | 53 | 3,735 | 3,819 | All motorboats |
| Am. Samoa | 56 | 128 | 66 | All motorboats |
| N. Marianas | 54 | 897 | 518 | All motorboats |

*Alaska did not have an approved numbering system as of December 31, 1990. The Coast Guard is the numbering authority.

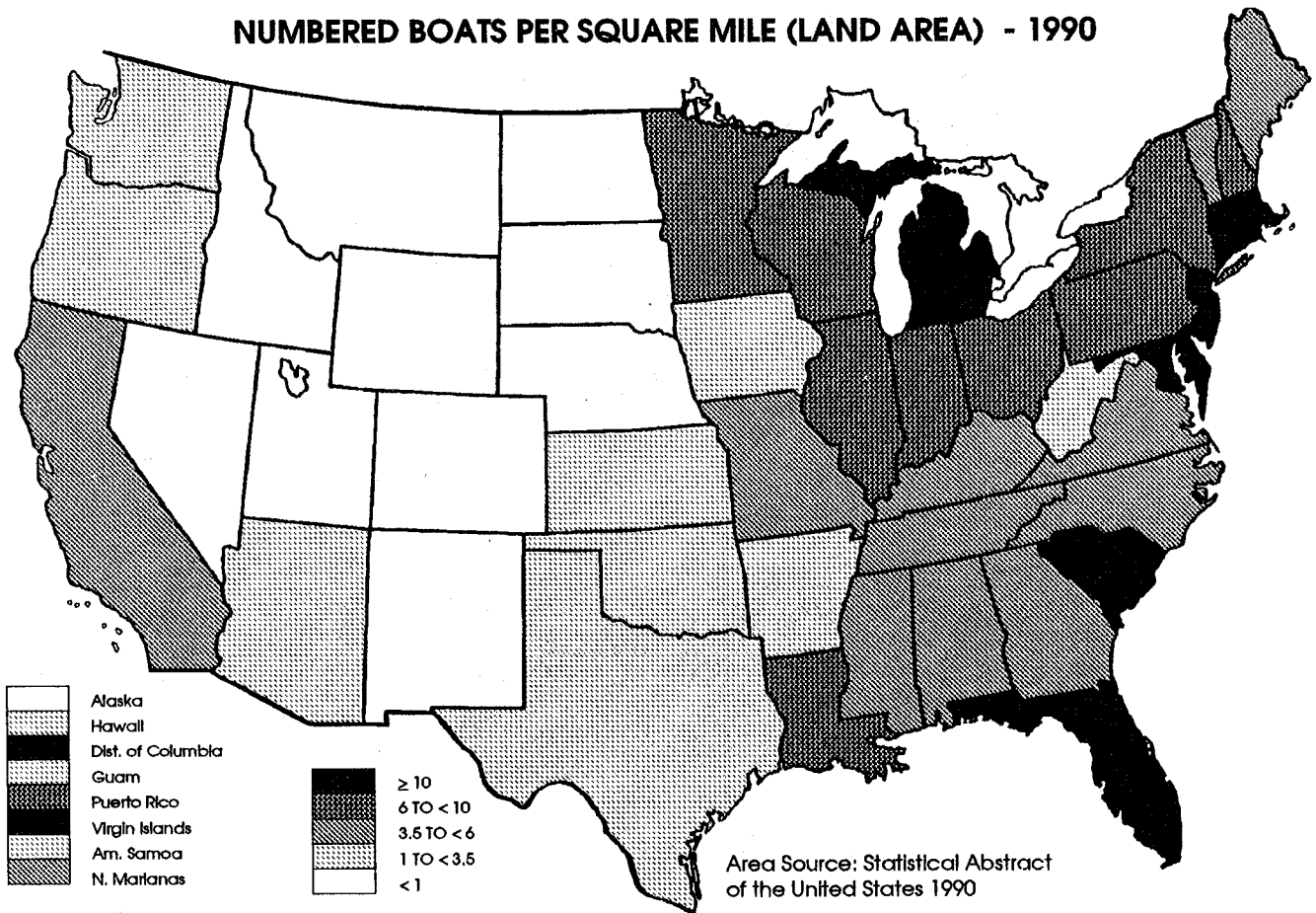
¹ Estimate (No report received)

² Arkansas excludes boats with motors of 10 HP or less used only during daylight.

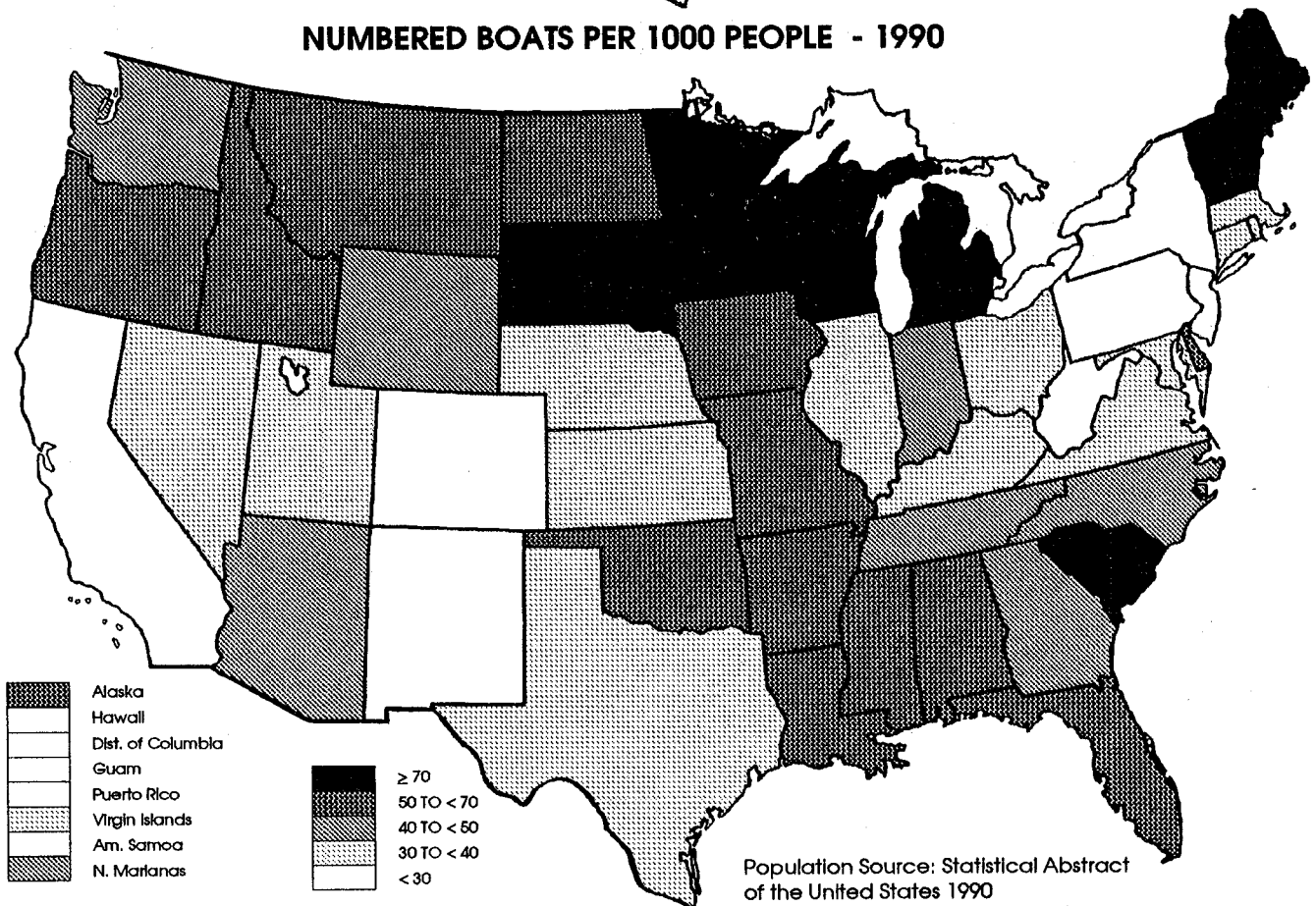
³ Iowa excludes inflatables under 7 feet in length and canoes/kayaks under 13 feet in length.

⁴ Minnesota excludes non-motorized boats 9 feet in length and under, duckboats during duckhunting season, and riceboats during harvest season.

NUMBERED BOATS PER SQUARE MILE (LAND AREA) - 1990



NUMBERED BOATS PER 1000 PEOPLE - 1990



| CLASSIFICATION OF NUMBERED MOTORBOATS BY PROPULSION AND HULL MATERIAL ¹ - 1990 | | | | | | | | |
|---|----------|------|------------|--------------------|------------|-------|-------|------------------|
| (PERCENT) | | | | | | | | |
| | | WOOD | FIBERGLASS | METAL ² | INFLATABLE | OTHER | TOTAL | CLASS |
| Less than 16 ft | Outboard | 1.39 | 17.67 | 27.23 | .50 | 1.59 | 48.38 | Class A 51.42 |
| | Inboard | .07 | 2.49 | .41 | .01 | .06 | 3.04 | |
| 16 ft to less than 26 ft | Outboard | .75 | 17.14 | 10.76 | .04 | .29 | 28.98 | Class 1 44.77 |
| | Inboard | .44 | 14.61 | .62 | .01 | .11 | 15.79 | |
| 26 ft to less than 40 ft | Outboard | .05 | .25 | .35 | .001 | .01 | .66 | Class 2 3.38 |
| | Inboard | .45 | 2.09 | .17 | .001 | .01 | 2.72 | |
| 40 ft to 65 ft | Outboard | .005 | .01 | .04 | 0 | .002 | .06 | Class 3 .43 |
| | Inboard | .06 | .22 | .09 | 0 | .003 | .37 | |
| Total | Outboard | 2.20 | 35.07 | 38.38 | .54 | 1.89 | 78.08 | |
| Total | Inboard | 1.02 | 19.41 | 1.29 | .02 | .18 | 21.92 | |
| Total by Material | | 3.22 | 54.48 | 39.67 | .56 | 2.07 | | |

¹ Includes 10,096,245 numbered motorboats under 65 feet. All boats reported to be registered as inboard-outdrives were counted as inboards, and where the States' reports broke down auxiliary sailboats between inboard and outboard, those boats were included in this table. For a few States with incomplete information, the boats were distributed by using previous years' reports. The 900,008 boats registered by the States but not shown in this table include: 200,433 non-powered sailboats; 75,480 auxiliary sailboats (type of engine unknown); 232,707 non-powered canoes; 126,203 non-powered rowboats; 42,429 personal watercraft; 3,224 motorboats over 65 feet in length; and 219,532 miscellaneous boats.

² See Note Page 3.

| CLASSIFICATION OF NUMBERED MOTORBOATS BY PROPULSION AND HULL MATERIAL - 1986 - 1989 | | | | | | |
|---|------|------------|----------|-------|-------|-------|
| (PERCENT) | | | | | | |
| | | 1989 | | | | |
| | WOOD | FIBERGLASS | ALUMINUM | STEEL | OTHER | TOTAL |
| TOTAL | 3.76 | 53.91 | 38.19 | .92 | 3.22 | |
| OUTBOARD | 2.63 | 36.00 | 37.41 | .77 | 2.95 | 79.76 |
| INBOARD | 1.13 | 17.91 | .78 | .15 | .27 | 20.24 |
| | | 1988 | | | | |
| | WOOD | FIBERGLASS | ALUMINUM | STEEL | OTHER | TOTAL |
| TOTAL | 4.33 | 52.67 | 38.72 | .94 | 3.34 | |
| OUTBOARD | 3.04 | 36.33 | 37.85 | .78 | 3.04 | 81.04 |
| INBOARD | 1.29 | 16.34 | .87 | .16 | .30 | 18.96 |
| | | 1987 | | | | |
| | WOOD | FIBERGLASS | ALUMINUM | STEEL | OTHER | TOTAL |
| TOTAL | 4.59 | 52.15 | 38.92 | 1.12 | 3.22 | |
| OUTBOARD | 3.20 | 36.62 | 38.12 | .91 | 2.93 | 81.78 |
| INBOARD | 1.39 | 15.53 | .80 | .21 | .29 | 18.22 |
| | | 1986 | | | | |
| | WOOD | FIBERGLASS | ALUMINUM | STEEL | OTHER | TOTAL |
| TOTAL | 5.07 | 51.36 | 39.48 | .93 | 3.16 | |
| OUTBOARD | 3.60 | 37.13 | 38.72 | .78 | 2.86 | 83.09 |
| INBOARD | 1.47 | 14.23 | .76 | .15 | .30 | 16.91 |

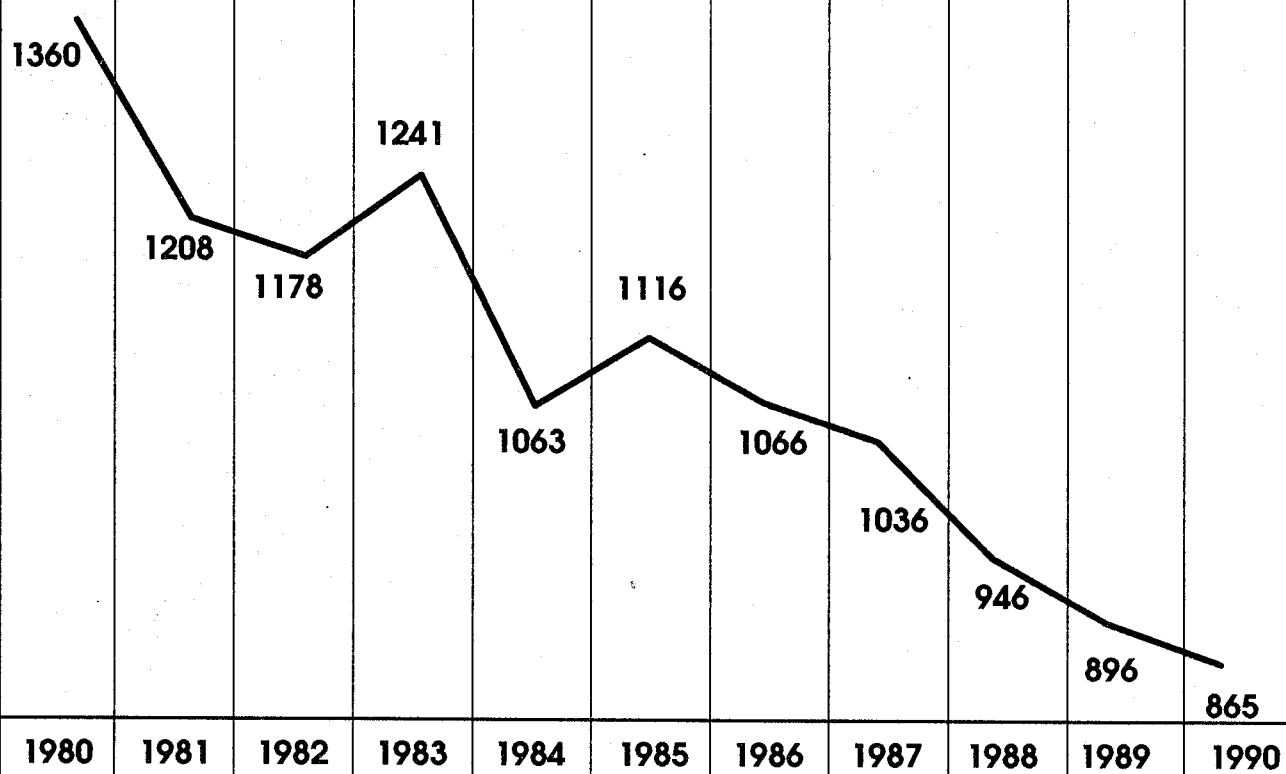
FATALITY RATE

The best available indicator of safety in recreational boating is the fatality rate, which relates the number of fatalities to the changing boat population. The Coast Guard's fatality rate is the number of reported fatalities per 100,000 recreational boats (estimated). The most meaningful fatality rate would be based on the exposure of boaters to the risks of boating, measured in passenger-hours, but such detailed, annual, nationwide information is not available. The estimate of the number of boats in the United States is based on nationwide telephone surveys conducted by the Coast Guard for the years 1973 and 1976 and by the American Red Cross in 1989 under a Coast Guard grant. Because a new estimate produced by the 1989 American Red Cross survey shows that our previous estimates were not high enough, we have adjusted the estimates from 1977 through 1989. These adjustments lowered the estimates of the fatality rate.

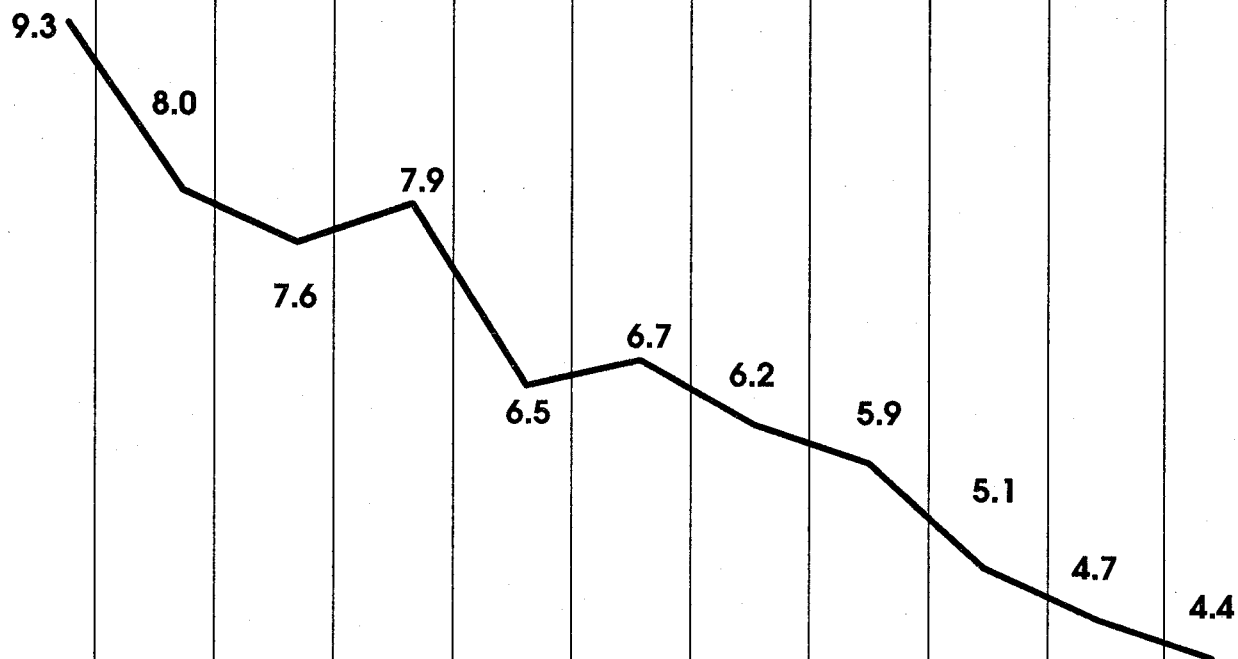
| YEAR | FATALITIES | ESTIMATED NUMBER OF BOATS | FATALITY RATE PER 100,000 BOATS |
|------|------------|------------------------------|------------------------------------|
| 1961 | 1218 | 5.85 | 20.8 |
| 1962 | 1114 | 5.95 | 18.7 |
| 1963 | 1167 | 6.05 | 19.3 |
| 1964 | 1192 | 6.2 | 19.2 |
| 1965 | 1360 | 6.35 | 21.4 |
| 1966 | 1318 | 6.5 | 20.3 |
| 1967 | 1312 | 6.65 | 19.7 |
| 1968 | 1342 | 6.85 | 19.6 |
| 1969 | 1350 | 7.1 | 19.0 |
| 1970 | 1418 | 7.4 | 19.2 |
| 1971 | 1582 | 7.85 | 20.2 |
| 1972 | 1437 | 8.5 | 16.9 |
| 1973 | 1754 | 9.6 | 18.3 |
| 1974 | 1446 | 10.75 | 13.5 |
| 1975 | 1466 | 11.8 | 12.4 |
| 1976 | 1264 | 12.75 | 9.9 |
| 1977 | 1312 | 13.3 | 9.9 |
| 1978 | 1321 | 13.6 | 9.7 |
| 1979 | 1400 | 14.1 | 9.9 |
| 1980 | 1360 | 14.6 | 9.3 |
| 1981 | 1208 | 15.1 | 8.0 |
| 1982 | 1178 | 15.5 | 7.6 |
| 1983 | 1241 | 15.8 | 7.9 |
| 1984 | 1063 | 16.3 | 6.5 |
| 1985 | 1116 | 16.7 | 6.7 |
| 1986 | 1066 | 17.3 | 6.2 |
| 1987 | 1036 | 17.7 | 5.9 |
| 1988 | 946 | 18.4 | 5.1 |
| 1989 | 896 | 19.0 | 4.7 |
| 1990 | 865 | 19.5 | 4.4 |

RECREATIONAL BOATING FATALITY STATISTICS (1980 - 1990)

FATALITIES

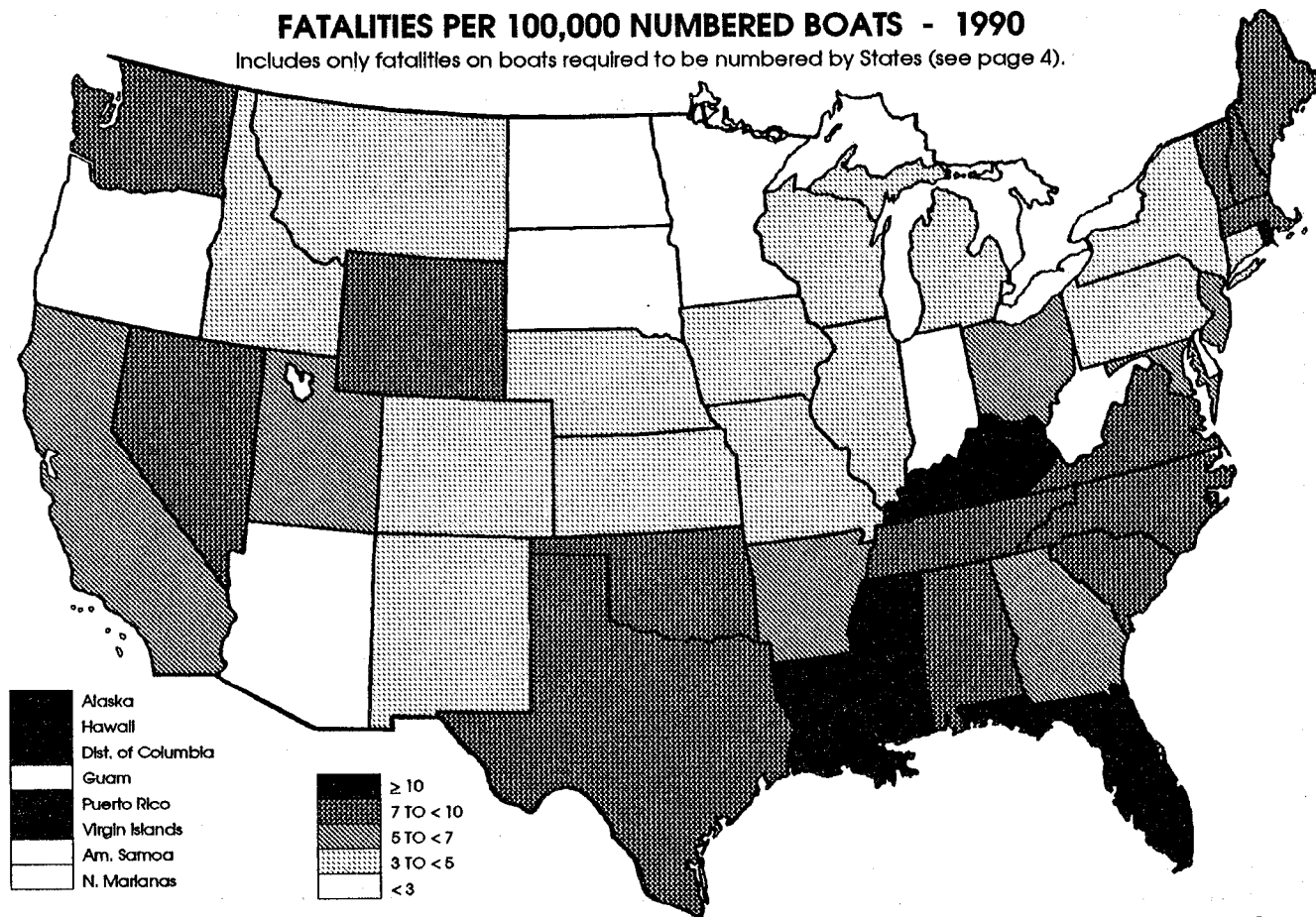


FATALITY RATE PER 100,000 ESTIMATED BOATS

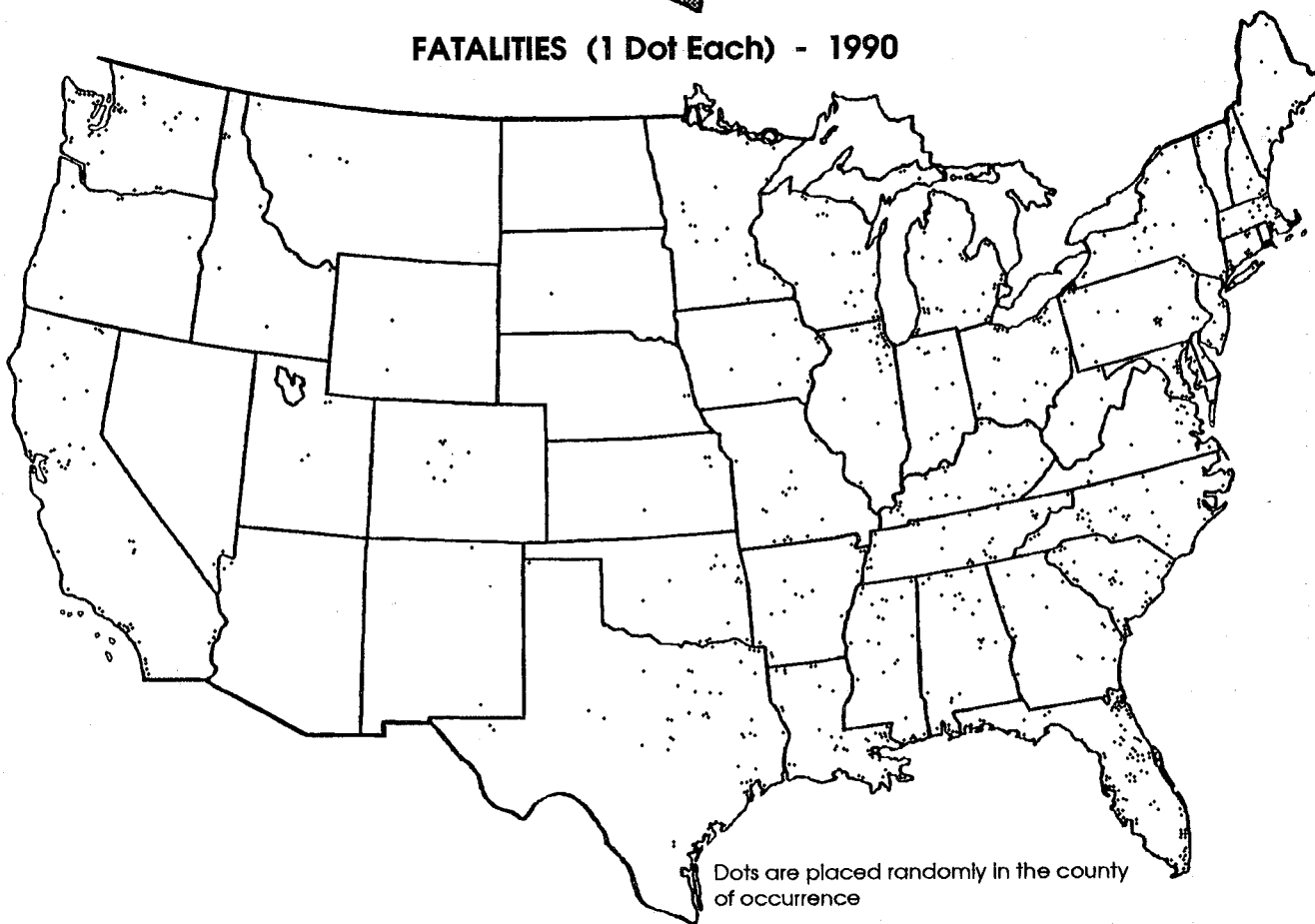


FATALITIES PER 100,000 NUMBERED BOATS - 1990

Includes only fatalities on boats required to be numbered by States (see page 4).



FATALITIES (1 Dot Each) - 1990



FIVE YEAR SUMMARY OF BOATING ACCIDENTS

| 1990 TYPE OF ACCIDENT | TOTAL | FATALITIES | INJURIES | PROPERTY DAMAGE |
|--------------------------------|-------|------------|----------|-----------------|
| Grounding | 390 | 14 | 240 | \$2,123,400 |
| Capsizing | 545 | 289 | 259 | \$1,073,700 |
| Swamping/Flooding | 252 | 60 | 55 | \$920,800 |
| Sinking | 210 | 11 | 38 | \$1,391,300 |
| Fire or Explosion of Fuel | 274 | 14 | 141 | \$3,671,300 |
| Other Fire or Explosion | 97 | 2 | 22 | \$3,252,900 |
| Collision with Another Vessel | 2,242 | 81 | 1,376 | \$7,180,500 |
| Collision with Fixed Object | 864 | 76 | 545 | \$2,959,600 |
| Collision with Floating Object | 269 | 13 | 100 | \$834,000 |
| Falls Overboard | 451 | 239 | 260 | \$90,600 |
| Falls Within Boat | 139 | 1 | 164 | \$71,900 |
| Struck by Boat or Propeller | 183 | 7 | 180 | \$7,100 |
| Other Casualty; Unknown | 495 | 58 | 442 | \$231,600 |

| 1989 TYPE OF ACCIDENT | TOTAL | FATALITIES | INJURIES | PROPERTY DAMAGE |
|--------------------------------|-------|------------|----------|-----------------|
| Grounding | 385 | 13 | 243 | \$2,097,400 |
| Capsizing | 576 | 330 | 258 | \$973,700 |
| Swamping/Flooding | 228 | 70 | 77 | \$1,337,200 |
| Sinking | 219 | 31 | 54 | \$1,168,800 |
| Fire or Explosion of fuel | 303 | 7 | 179 | \$6,325,300 |
| Other Fire or Explosion | 60 | 6 | 11 | \$2,049,400 |
| Collision with Another Vessel | 2,039 | 60 | 1,265 | \$6,707,500 |
| Collision with Fixed Object | 797 | 60 | 509 | \$2,665,000 |
| Collision with Floating Object | 296 | 8 | 116 | \$1,284,900 |
| Falls Overboard | 428 | 217 | 252 | \$103,400 |
| Falls Within Boat | 119 | 0 | 142 | \$92,000 |
| Struck by Boat or Propeller | 65 | 6 | 60 | \$3,900 |
| Other Casualty; Unknown | 548 | 88 | 469 | \$424,700 |

| 1988 TYPE OF ACCIDENT | TOTAL | FATALITIES | INJURIES | PROPERTY DAMAGE |
|--------------------------------|-------|------------|----------|-----------------|
| Grounding | 432 | 18 | 216 | \$2,156,100 |
| Capsizing | 608 | 305 | 286 | \$1,313,800 |
| Swamping/Flooding | 265 | 64 | 45 | \$824,100 |
| Sinking | 276 | 36 | 52 | \$1,589,600 |
| Fire or Explosion of Fuel | 385 | 5 | 176 | \$7,117,100 |
| Other Fire or Explosion | 42 | 3 | 11 | \$1,019,400 |
| Collision with Another Vessel | 2,351 | 76 | 1,321 | \$6,187,900 |
| Collision with Fixed Object | 848 | 78 | 449 | \$2,460,400 |
| Collision with Floating Object | 376 | 13 | 126 | \$1,193,500 |
| Falls Overboard | 450 | 260 | 222 | \$58,000 |
| Falls Within Boat | 97 | 3 | 101 | \$18,800 |
| Struck by Boat or Propeller | 48 | 11 | 40 | \$5,400 |
| Other Casualty; Unknown | 540 | 74 | 431 | \$388,000 |

FIVE YEAR SUMMARY OF BOATING ACCIDENTS

| 1987 | TOTAL | FATALITIES | INJURIES | PROPERTY DAMAGE |
|--------------------------------|--------------|-------------------|-----------------|------------------------|
| TYPE OF ACCIDENT | | | | |
| Grounding | 451 | 7 | 205 | \$1,927,800 |
| Capsizing | 660 | 361 | 217 | \$1,178,300 |
| Swamping/Flooding | 254 | 67 | 80 | \$880,200 |
| Sinking | 315 | 55 | 73 | \$2,489,300 |
| Fire or Explosion of Fuel | 394 | 6 | 183 | \$4,469,600 |
| Other Fire or Explosion | 41 | 2 | 7 | \$849,600 |
| Collision with Another Vessel | 2,288 | 80 | 1,307 | \$5,893,200 |
| Collision with Fixed Object | 853 | 58 | 496 | \$2,124,300 |
| Collision with Floating Object | 314 | 17 | 93 | \$1,105,300 |
| Falls Overboard | 434 | 272 | 200 | \$163,200 |
| Falls Within Boat | 77 | 0 | 85 | \$7,400 |
| Struck by Boat or Propeller | 119 | 12 | 115 | \$9,000 |
| Other Casualty; Unknown | 546 | 99 | 440 | \$288,500 |
| 1986 | TOTAL | FATALITIES | INJURIES | PROPERTY DAMAGE |
| TYPE OF ACCIDENT | | | | |
| Grounding | 367 | 11 | 142 | \$1,626,500 |
| Capsizing | 628 | 370 | 207 | \$998,800 |
| Swamping/Flooding | 289 | 89 | 59 | \$811,300 |
| Sinking | 227 | 28 | 37 | \$925,800 |
| Fire or Explosion of Fuel | 379 | 6 | 171 | \$4,084,700 |
| Other Fire or Explosion | 83 | 2 | 12 | \$1,844,200 |
| Collision with Another Vessel | 2,108 | 86 | 972 | \$4,957,900 |
| Collision with Fixed Object | 914 | 79 | 432 | \$3,080,800 |
| Collision with Floating Object | 276 | 8 | 57 | \$614,700 |
| Falls Overboard | 451 | 277 | 205 | \$82,000 |
| Falls Within Boat | 70 | 0 | 77 | \$13,400 |
| Struck by Boat or Propeller | 147 | 16 | 133 | \$1,600 |
| Other Casualty; Unknown | 468 | 94 | 343 | \$316,200 |
| 1990 | TOTAL | FATALITIES | INJURIES | PROPERTY DAMAGE |
| | 6,411 | 865 | 3,822 | \$23,808,700 |
| 1989 | TOTAL | FATALITIES | INJURIES | PROPERTY DAMAGE |
| | 6,063 | 896 | 3,635 | \$25,233,200 |
| 1988 | TOTAL | FATALITIES | INJURIES | PROPERTY DAMAGE |
| | 6,718 | 946 | 3,476 | \$24,332,100 |
| 1987 | TOTAL | FATALITIES | INJURIES | PROPERTY DAMAGE |
| | 6,746 | 1,036 | 3,501 | \$21,385,700 |
| 1986 | TOTAL | FATALITIES | INJURIES | PROPERTY DAMAGE |
| | 6,407 | 1,066 | 2,847 | \$19,357,900 |

JURISDICTION OF BOATING ACCIDENTS BY STATE

This table includes statistics for only those accidents for which a determination of jurisdiction could be made from available information

| 1990 | ALL REPORTED ACCIDENTS | | FATAL ACCIDENTS | | FATALITIES | | VESSELS INVOLVED | |
|----------------|------------------------|---------------------|-----------------|---------------------|-----------------|---------------------|------------------|---------------------|
| | 5,299 | | 732 | | 859 | | 7,063 | |
| | EXCLUSIVE STATE | JOINT FEDERAL-STATE | EXCLUSIVE STATE | JOINT FEDERAL-STATE | EXCLUSIVE STATE | JOINT FEDERAL-STATE | EXCLUSIVE STATE | JOINT FEDERAL-STATE |
| TOTALS | 1,743 | 3,556 | 374 | 358 | 428 | 431 | 2,299 | 4,764 |
| Alabama | 21 | 123 | 10 | 12 | 11 | 15 | 23 | 149 |
| Alaska | 1 | 33 | 0 | 18 | 0 | 21 | 1 | 38 |
| Arizona | 7 | 128 | 0 | 2 | 0 | 2 | 9 | 182 |
| Arkansas | 14 | 24 | 11 | 1 | 13 | 1 | 17 | 34 |
| California | 247 | 346 | 19 | 21 | 24 | 26 | 361 | 504 |
| Colorado | 49 | 1 | 5 | 1 | 7 | 1 | 66 | 1 |
| Connecticut | 15 | 63 | 6 | 3 | 6 | 4 | 19 | 90 |
| Delaware | 4 | 19 | 1 | 0 | 1 | 0 | 6 | 25 |
| Dist. of Col. | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 3 |
| Florida | 51 | 617 | 40 | 29 | 47 | 38 | 59 | 828 |
| Georgia | 16 | 49 | 7 | 8 | 8 | 9 | 20 | 65 |
| Hawaii | 0 | 21 | 0 | 2 | 0 | 3 | 0 | 25 |
| Idaho | 21 | 33 | 5 | 2 | 5 | 2 | 28 | 42 |
| Illinois | 29 | 73 | 11 | 9 | 11 | 12 | 42 | 109 |
| Indiana | 78 | 8 | 8 | 0 | 9 | 0 | 102 | 8 |
| Iowa | 13 | 14 | 2 | 6 | 2 | 6 | 16 | 19 |
| Kansas | 22 | 0 | 4 | 0 | 4 | 0 | 26 | 0 |
| Kentucky | 16 | 55 | 7 | 15 | 7 | 16 | 21 | 73 |
| Louisiana | 29 | 51 | 18 | 14 | 21 | 17 | 33 | 60 |
| Maine | 8 | 6 | 8 | 1 | 8 | 1 | 8 | 7 |
| Maryland | 16 | 169 | 3 | 12 | 3 | 12 | 17 | 231 |
| Massachusetts | 16 | 39 | 11 | 11 | 13 | 13 | 20 | 48 |
| Michigan | 159 | 152 | 12 | 16 | 13 | 19 | 214 | 201 |
| Minnesota | 69 | 29 | 8 | 7 | 9 | 8 | 96 | 39 |
| Mississippi | 22 | 40 | 11 | 11 | 12 | 11 | 28 | 48 |
| Missouri | 99 | 103 | 6 | 8 | 7 | 8 | 136 | 127 |
| Montana | 2 | 7 | 1 | 2 | 1 | 3 | 2 | 9 |
| Nebraska | 15 | 2 | 0 | 1 | 0 | 2 | 20 | 2 |
| Nevada | 13 | 101 | 2 | 2 | 2 | 2 | 17 | 136 |
| New Hampshire | 32 | 1 | 7 | 0 | 8 | 0 | 41 | 1 |
| New Jersey | 69 | 234 | 4 | 5 | 4 | 5 | 100 | 309 |
| New Mexico | 7 | 10 | 1 | 0 | 1 | 0 | 7 | 12 |
| New York | 97 | 172 | 10 | 14 | 10 | 16 | 132 | 238 |
| North Carolina | 59 | 64 | 18 | 11 | 22 | 11 | 78 | 86 |
| North Dakota | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| Ohio | 23 | 81 | 11 | 6 | 13 | 11 | 28 | 111 |
| Oklahoma | 38 | 25 | 7 | 5 | 9 | 6 | 47 | 33 |
| Oregon | 27 | 68 | 4 | 2 | 5 | 2 | 35 | 94 |
| Pennsylvania | 29 | 68 | 8 | 12 | 8 | 19 | 40 | 88 |
| Rhode Island | 5 | 2 | 1 | 2 | 2 | 2 | 8 | 2 |
| South Carolina | 28 | 67 | 9 | 17 | 11 | 21 | 40 | 91 |
| South Dakota | 4 | 3 | 1 | 0 | 1 | 0 | 4 | 4 |
| Tennessee | 16 | 60 | 8 | 12 | 10 | 16 | 19 | 79 |
| Texas | 112 | 54 | 29 | 14 | 34 | 17 | 132 | 72 |
| Utah | 27 | 42 | 3 | 0 | 4 | 0 | 40 | 57 |
| Vermont | 0 | 3 | 0 | 3 | 0 | 5 | 0 | 3 |
| Virginia | 23 | 107 | 5 | 16 | 7 | 17 | 27 | 130 |
| Washington | 33 | 82 | 15 | 15 | 16 | 20 | 37 | 110 |
| West Virginia | 3 | 9 | 2 | 1 | 2 | 1 | 3 | 13 |
| Wisconsin | 56 | 63 | 14 | 3 | 16 | 3 | 71 | 82 |
| Wyoming | 2 | 4 | 1 | 1 | 1 | 1 | 2 | 5 |
| Guam | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 4 |
| Puerto Rico | 0 | 13 | 0 | 3 | 0 | 4 | 0 | 16 |
| Virgin Islands | 0 | 13 | 0 | 1 | 0 | 1 | 0 | 20 |
| Am. Samoa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| No. Marianas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

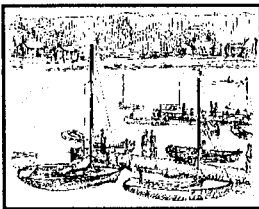
ACCIDENT DATA BY STATE

| 1990 | NUMBER OF ACCIDENTS | | | | NUMBER OF VESSELS INVOLVED IN ACCIDENTS | | | | NUMBER OF PERSONS | | PROPERTY DAMAGE (\$) |
|----------------|---------------------|------------|------------------|-----------------|---|------------|------------------|-----------------|-------------------|---------------------|----------------------|
| | TOTAL | FATAL | NON-FATAL INJURY | PROPERTY DAMAGE | TOTAL | FATAL | NON-FATAL INJURY | PROPERTY DAMAGE | KILLED | INJURED NON-FATALLY | PROPERTY DAMAGE |
| TOTALS | 6,411 | 738 | 2,602 | 3,071 | 8,591 | 739 | 2,721 | 5,131 | 865 | 3,822 | 23,808,700 |
| Alabama | 157 | 22 | 49 | 86 | 190 | 22 | 52 | 116 | 26 | 74 | 438,400 |
| Alaska | 34 | 18 | 2 | 14 | 39 | 18 | 2 | 19 | 21 | 6 | 235,100 |
| Arizona | 138 | 2 | 73 | 63 | 194 | 2 | 77 | 115 | 2 | 110 | 378,200 |
| Arkansas | 45 | 12 | 21 | 12 | 62 | 12 | 23 | 27 | 14 | 28 | 136,300 |
| California | 761 | 40 | 341 | 380 | 1,095 | 40 | 349 | 706 | 50 | 416 | 3,131,200 |
| Colorado | 59 | 6 | 30 | 23 | 79 | 6 | 33 | 40 | 8 | 41 | 81,900 |
| Connecticut | 97 | 10 | 37 | 50 | 137 | 10 | 37 | 90 | 11 | 50 | 409,600 |
| Delaware | 24 | 1 | 7 | 16 | 32 | 1 | 7 | 24 | 1 | 14 | 74,300 |
| Dist. of Col. | 2 | 1 | 0 | 1 | 3 | 1 | 0 | 2 | 1 | 0 | 12,000 |
| Florida | 918 | 72 | 378 | 468 | 1,247 | 72 | 395 | 780 | 88 | 540 | 4,173,000 |
| Georgia | 90 | 15 | 32 | 43 | 119 | 15 | 33 | 71 | 17 | 54 | 634,900 |
| Hawaii | 21 | 2 | 6 | 13 | 25 | 2 | 6 | 17 | 3 | 6 | 271,700 |
| Idaho | 54 | 7 | 19 | 28 | 70 | 7 | 20 | 43 | 7 | 37 | 119,300 |
| Illinois | 124 | 21 | 58 | 45 | 177 | 21 | 65 | 91 | 24 | 115 | 380,100 |
| Indiana | 108 | 8 | 50 | 50 | 142 | 8 | 50 | 84 | 9 | 57 | 259,500 |
| Iowa | 32 | 8 | 14 | 10 | 41 | 8 | 14 | 19 | 8 | 18 | 21,600 |
| Kansas | 28 | 4 | 14 | 10 | 33 | 4 | 14 | 15 | 4 | 17 | 43,500 |
| Kentucky | 77 | 22 | 17 | 38 | 104 | 22 | 18 | 64 | 23 | 36 | 548,400 |
| Louisiana | 109 | 32 | 41 | 36 | 128 | 32 | 45 | 51 | 38 | 88 | 276,200 |
| Maine | 65 | 9 | 27 | 29 | 80 | 9 | 27 | 44 | 9 | 34 | 203,000 |
| Maryland | 188 | 15 | 67 | 106 | 252 | 15 | 67 | 170 | 15 | 94 | 1,034,000 |
| Massachusetts | 102 | 22 | 30 | 50 | 127 | 22 | 30 | 75 | 26 | 53 | 601,800 |
| Michigan | 322 | 28 | 185 | 109 | 431 | 28 | 189 | 214 | 32 | 233 | 811,700 |
| Minnesota | 147 | 15 | 88 | 44 | 201 | 15 | 96 | 90 | 17 | 128 | 402,400 |
| Mississippi | 72 | 22 | 27 | 23 | 88 | 22 | 29 | 37 | 23 | 53 | 144,500 |
| Missouri | 203 | 14 | 87 | 102 | 265 | 14 | 91 | 160 | 15 | 133 | 545,400 |
| Montana | 22 | 3 | 6 | 13 | 27 | 3 | 7 | 17 | 4 | 13 | 25,800 |
| Nebraska | 28 | 1 | 16 | 11 | 37 | 1 | 16 | 20 | 2 | 18 | 110,200 |
| Nevada | 121 | 4 | 40 | 77 | 161 | 4 | 40 | 117 | 4 | 58 | 452,800 |
| New Hampshire | 49 | 7 | 22 | 20 | 60 | 7 | 23 | 30 | 8 | 31 | 71,700 |
| New Jersey | 311 | 9 | 90 | 212 | 422 | 9 | 93 | 320 | 9 | 114 | 922,500 |
| New Mexico | 21 | 2 | 8 | 11 | 24 | 2 | 9 | 13 | 2 | 18 | 67,200 |
| New York | 295 | 24 | 112 | 159 | 409 | 24 | 119 | 266 | 26 | 190 | 2,101,300 |
| North Carolina | 123 | 29 | 55 | 39 | 164 | 29 | 61 | 74 | 33 | 87 | 273,300 |
| North Dakota | 3 | 0 | 0 | 3 | 3 | 0 | 0 | 3 | 0 | 0 | 5,300 |
| Ohio | 124 | 17 | 29 | 78 | 166 | 18 | 30 | 118 | 24 | 53 | 487,900 |
| Oklahoma | 72 | 12 | 34 | 26 | 92 | 12 | 35 | 45 | 15 | 48 | 198,700 |
| Oregon | 99 | 6 | 34 | 59 | 134 | 6 | 37 | 91 | 7 | 58 | 323,400 |
| Pennsylvania | 109 | 20 | 53 | 36 | 144 | 20 | 54 | 70 | 27 | 85 | 355,000 |
| Rhode Island | 30 | 3 | 10 | 17 | 52 | 3 | 11 | 38 | 4 | 16 | 72,500 |
| South Carolina | 105 | 26 | 44 | 35 | 143 | 26 | 50 | 67 | 32 | 78 | 229,300 |
| South Dakota | 12 | 1 | 4 | 7 | 14 | 1 | 4 | 9 | 1 | 4 | 7,200 |
| Tennessee | 76 | 20 | 29 | 27 | 98 | 20 | 32 | 46 | 26 | 47 | 218,100 |
| Texas | 218 | 43 | 60 | 115 | 271 | 43 | 62 | 166 | 51 | 89 | 651,000 |
| Utah | 82 | 3 | 34 | 45 | 112 | 3 | 36 | 73 | 4 | 53 | 183,100 |
| Vermont | 3 | 3 | 0 | 0 | 3 | 3 | 0 | 0 | 5 | 0 | 0 |
| Virginia | 134 | 21 | 56 | 57 | 164 | 21 | 58 | 85 | 24 | 86 | 664,000 |
| Washington | 163 | 30 | 45 | 88 | 205 | 30 | 46 | 129 | 36 | 62 | 559,200 |
| West Virginia | 18 | 3 | 4 | 11 | 24 | 3 | 4 | 17 | 3 | 6 | 33,000 |
| Wisconsin | 179 | 17 | 103 | 59 | 250 | 17 | 111 | 122 | 19 | 144 | 281,700 |
| Wyoming | 9 | 2 | 4 | 3 | 11 | 2 | 4 | 5 | 2 | 13 | 34,400 |
| Guam | 2 | 0 | 1 | 1 | 4 | 0 | 1 | 3 | 0 | 1 | 1,400 |
| Puerto Rico | 13 | 3 | 5 | 5 | 16 | 3 | 5 | 8 | 4 | 7 | 66,100 |
| Virgin Islands | 13 | 1 | 4 | 8 | 20 | 1 | 4 | 15 | 1 | 8 | 44,600 |
| Am. Samoa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| No. Marianas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

TYPES OF ACCIDENTS BY STATE

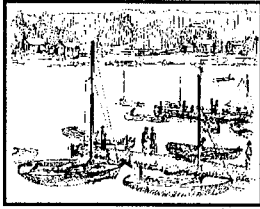
| 1990 | NUMBER OF VESSELS INVOLVED IN ACCIDENTS | | | | | | | | | | | | | | VICTIMS | | |
|----------------|---|-----------|-----------|-----------------------|---------|--------------------------|---------------------------|-------------------------------|-----------------------------|--------------------------------|-----------------|-------------------|-----------------------------|-------------------------------|-----------|--------------|----------|
| | TOTAL VESSELS INVOLVED | GROUNDING | CAPSIZING | FLOODING ¹ | SINKING | FIRE OR EXPLOSION (FUEL) | FIRE OR EXPLOSION (OTHER) | COLLISION WITH ANOTHER VESSEL | COLLISION WITH FIXED OBJECT | COLLISION WITH FLOATING OBJECT | FALLS OVERBOARD | FALLS WITHIN BOAT | STRUCK BY BOAT OR PROPELLER | OTHER CASUALTIES ² | DROWNINGS | OTHER DEATHS | INJURIES |
| TOTALS | 8,591 | 390 | 545 | 252 | 210 | 274 | 97 | 4,422 | 864 | 262 | 451 | 139 | 191 | 494 | 707 | 158 | 3,822 |
| Alabama | 190 | 7 | 19 | 5 | 6 | 8 | 2 | 69 | 36 | 15 | 12 | 0 | 2 | 9 | 20 | 6 | 74 |
| Alaska | 39 | 2 | 5 | 1 | 3 | 1 | 0 | 10 | 1 | 4 | 8 | 0 | 0 | 4 | 21 | 0 | 6 |
| Arizona | 194 | 16 | 2 | 14 | 3 | 10 | 2 | 116 | 1 | 4 | 2 | 5 | 7 | 12 | 2 | 0 | 110 |
| Arkansas | 62 | 2 | 4 | 2 | 2 | 3 | 0 | 33 | 4 | 5 | 5 | 0 | 1 | 1 | 12 | 2 | 28 |
| California | 1,095 | 51 | 39 | 17 | 28 | 27 | 8 | 687 | 48 | 24 | 28 | 11 | 39 | 88 | 35 | 15 | 416 |
| Colorado | 79 | 4 | 9 | 4 | 3 | 1 | 0 | 40 | 5 | 0 | 1 | 3 | 0 | 9 | 8 | 0 | 41 |
| Connecticut | 137 | 9 | 9 | 2 | 3 | 3 | 2 | 79 | 9 | 6 | 6 | 4 | 1 | 4 | 11 | 0 | 50 |
| Delaware | 32 | 2 | 2 | 2 | 0 | 0 | 1 | 16 | 7 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 14 |
| Dist. of Col. | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Florida | 1,247 | 41 | 64 | 25 | 44 | 30 | 21 | 655 | 195 | 21 | 53 | 30 | 28 | 40 | 66 | 22 | 540 |
| Georgia | 119 | 3 | 12 | 4 | 5 | 2 | 2 | 59 | 14 | 2 | 4 | 1 | 4 | 7 | 15 | 2 | 54 |
| Hawaii | 25 | 7 | 1 | 3 | 0 | 0 | 0 | 8 | 1 | 1 | 0 | 1 | 2 | 1 | 3 | 0 | 6 |
| Idaho | 70 | 4 | 5 | 1 | 1 | 1 | 1 | 31 | 11 | 5 | 4 | 0 | 2 | 4 | 5 | 2 | 37 |
| Illinois | 177 | 3 | 16 | 9 | 3 | 4 | 0 | 108 | 13 | 5 | 5 | 1 | 2 | 8 | 20 | 4 | 115 |
| Indiana | 142 | 3 | 11 | 0 | 7 | 6 | 2 | 68 | 12 | 3 | 11 | 1 | 4 | 14 | 9 | 0 | 57 |
| Iowa | 41 | 1 | 2 | 2 | 2 | 1 | 0 | 19 | 2 | 0 | 3 | 0 | 2 | 7 | 7 | 1 | 18 |
| Kansas | 33 | 1 | 3 | 2 | 3 | 0 | 0 | 10 | 3 | 1 | 5 | 0 | 2 | 3 | 4 | 0 | 17 |
| Kentucky | 104 | 5 | 9 | 5 | 1 | 6 | 0 | 56 | 9 | 4 | 5 | 0 | 1 | 3 | 19 | 4 | 36 |
| Louisiana | 128 | 2 | 12 | 3 | 5 | 4 | 0 | 42 | 31 | 7 | 14 | 2 | 1 | 5 | 25 | 13 | 88 |
| Maine | 80 | 10 | 9 | 2 | 1 | 0 | 0 | 35 | 6 | 2 | 6 | 0 | 3 | 6 | 7 | 2 | 34 |
| Maryland | 252 | 9 | 12 | 2 | 5 | 12 | 2 | 131 | 16 | 10 | 9 | 14 | 5 | 25 | 11 | 4 | 94 |
| Massachusetts | 127 | 6 | 12 | 4 | 4 | 2 | 3 | 50 | 18 | 9 | 12 | 1 | 2 | 4 | 22 | 4 | 53 |
| Michigan | 431 | 7 | 32 | 11 | 3 | 14 | 5 | 216 | 30 | 6 | 28 | 12 | 15 | 52 | 29 | 3 | 233 |
| Minnesota | 201 | 5 | 10 | 5 | 3 | 6 | 0 | 109 | 10 | 3 | 15 | 4 | 5 | 26 | 12 | 5 | 128 |
| Mississippi | 88 | 4 | 9 | 3 | 3 | 1 | 1 | 34 | 15 | 2 | 8 | 3 | 1 | 4 | 19 | 4 | 53 |
| Missouri | 265 | 8 | 10 | 22 | 3 | 11 | 3 | 125 | 35 | 2 | 13 | 4 | 2 | 27 | 10 | 5 | 133 |
| Montana | 27 | 3 | 4 | 0 | 0 | 1 | 0 | 10 | 2 | 3 | 3 | 0 | 0 | 1 | 4 | 0 | 13 |
| Nebraska | 37 | 0 | 1 | 1 | 2 | 4 | 1 | 17 | 0 | 1 | 2 | 0 | 3 | 5 | 0 | 2 | 18 |
| Nevada | 161 | 18 | 5 | 10 | 12 | 7 | 2 | 77 | 10 | 0 | 5 | 3 | 4 | 8 | 2 | 2 | 58 |
| New Hampshire | 60 | 5 | 3 | 0 | 1 | 3 | 0 | 22 | 9 | 1 | 5 | 3 | 2 | 6 | 8 | 0 | 31 |
| New Jersey | 422 | 27 | 13 | 15 | 4 | 17 | 8 | 228 | 59 | 15 | 14 | 5 | 4 | 13 | 5 | 4 | 114 |
| New Mexico | 24 | 4 | 6 | 2 | 3 | 0 | 0 | 6 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 18 |
| New York | 409 | 26 | 24 | 5 | 8 | 14 | 12 | 230 | 43 | 11 | 13 | 8 | 10 | 5 | 18 | 8 | 190 |
| North Carolina | 164 | 3 | 13 | 6 | 0 | 3 | 0 | 84 | 16 | 4 | 21 | 0 | 2 | 12 | 24 | 9 | 87 |
| North Dakota | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ohio | 166 | 12 | 17 | 2 | 8 | 5 | 2 | 82 | 14 | 13 | 4 | 2 | 1 | 4 | 21 | 3 | 53 |
| Oklahoma | 92 | 6 | 8 | 4 | 7 | 6 | 1 | 40 | 4 | 0 | 7 | 1 | 3 | 5 | 15 | 0 | 48 |
| Oregon | 134 | 11 | 5 | 1 | 3 | 6 | 0 | 71 | 16 | 9 | 4 | 3 | 1 | 4 | 4 | 3 | 58 |
| Pennsylvania | 144 | 2 | 18 | 7 | 1 | 3 | 1 | 71 | 8 | 4 | 14 | 5 | 2 | 8 | 26 | 1 | 85 |
| Rhode Island | 52 | 1 | 2 | 1 | 0 | 0 | 0 | 42 | 0 | 1 | 2 | 1 | 0 | 2 | 4 | 0 | 16 |
| South Carolina | 143 | 7 | 11 | 1 | 5 | 4 | 2 | 76 | 16 | 6 | 10 | 0 | 1 | 4 | 26 | 6 | 78 |
| South Dakota | 14 | 0 | 2 | 1 | 0 | 0 | 0 | 4 | 3 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 4 |
| Tennessee | 98 | 3 | 11 | 3 | 1 | 4 | 1 | 46 | 6 | 3 | 8 | 1 | 1 | 10 | 20 | 6 | 47 |
| Texas | 271 | 9 | 23 | 11 | 3 | 10 | 3 | 105 | 49 | 14 | 27 | 3 | 2 | 12 | 44 | 7 | 89 |
| Utah | 112 | 7 | 7 | 5 | 1 | 9 | 1 | 60 | 7 | 2 | 4 | 0 | 4 | 5 | 4 | 0 | 53 |
| Vermont | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 0 |
| Virginia | 164 | 7 | 10 | 4 | 3 | 12 | 6 | 61 | 21 | 9 | 15 | 4 | 4 | 8 | 21 | 3 | 86 |
| Washington | 205 | 15 | 23 | 11 | 5 | 7 | 2 | 87 | 17 | 18 | 9 | 0 | 9 | 2 | 35 | 1 | 62 |
| West Virginia | 24 | 1 | 2 | 0 | 1 | 1 | 0 | 15 | 2 | 1 | 1 | 0 | 0 | 0 | 3 | 0 | 6 |
| Wisconsin | 250 | 8 | 14 | 7 | 1 | 4 | 0 | 148 | 22 | 6 | 19 | 3 | 6 | 12 | 16 | 3 | 144 |
| Wyoming | 11 | 2 | 0 | 0 | 0 | 1 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 13 |
| Guam | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Puerto Rico | 16 | 0 | 2 | 3 | 0 | 0 | 0 | 7 | 2 | 0 | 2 | 0 | 0 | 0 | 3 | 1 | 7 |
| Virgin Islands | 20 | 1 | 1 | 1 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 8 |
| Am. Samoa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| No. Marianas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Type of accident refers only to the first event that occurred. Some accidents involve more than one event. A grounding followed by a sinking is counted only as a grounding even though the sinking may have directly led to a fatality. ¹ Includes swamping. ² Includes unknowns.



FIVE YEAR SUMMARY OF SELECTED ACCIDENT DATA BY STATE 1986 - 1990

| | TOTAL NUMBER OF ACCIDENTS | | | | | FATAL ACCIDENTS | | | | | FATALITIES | | | | |
|-------------------|------------------------------|--------------|--------------|--------------|--------------|-----------------|------------|------------|------------|------------|--------------|--------------|------------|------------|------------|
| | 1986 | 1987 | 1988 | 1989 | 1990 | 1986 | 1987 | 1988 | 1989 | 1990 | 1986 | 1987 | 1988 | 1989 | 1990 |
| TOTALS | 6,407 | 6,746 | 6,718 | 6,063 | 6,411 | 910 | 854 | 815 | 764 | 738 | 1,066 | 1,036 | 946 | 896 | 865 |
| Alabama | 185 | 152 | 179 | 103 | 157 | 21 | 18 | 22 | 14 | 22 | 22 | 21 | 23 | 15 | 26 |
| Alaska | 46 | 47 | 42 | 35 | 34 | 39 | 31 | 27 | 29 | 18 | 53 | 46 | 34 | 37 | 21 |
| Arizona | 166 | 180 | 168 | 133 | 138 | 10 | 5 | 4 | 5 | 2 | 12 | 6 | 4 | 6 | 2 |
| Arkansas | 36 | 41 | 38 | 59 | 45 | 13 | 15 | 13 | 17 | 12 | 17 | 15 | 13 | 18 | 14 |
| California | 741 | 905 | 745 | 632 | 761 | 57 | 45 | 45 | 31 | 40 | 68 | 54 | 51 | 43 | 50 |
| Colorado | 73 | 79 | 72 | 63 | 59 | 5 | 12 | 7 | 8 | 6 | 6 | 13 | 8 | 10 | 8 |
| Connecticut | 75 | 69 | 83 | 34 | 97 | 7 | 7 | 9 | 4 | 10 | 8 | 9 | 12 | 5 | 11 |
| Delaware | 21 | 24 | 25 | 25 | 24 | 2 | 3 | 1 | 2 | 1 | 3 | 4 | 1 | 2 | 1 |
| Dist. of Columbia | 7 | 4 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Florida | 744 | 842 | 952 | 899 | 918 | 57 | 81 | 79 | 56 | 72 | 66 | 106 | 94 | 65 | 88 |
| Georgia | 116 | 134 | 125 | 104 | 90 | 16 | 24 | 21 | 18 | 15 | 16 | 30 | 22 | 21 | 17 |
| Hawaii | 54 | 62 | 31 | 40 | 21 | 3 | 1 | 4 | 1 | 2 | 3 | 2 | 5 | 1 | 3 |
| Idaho | 83 | 52 | 69 | 45 | 54 | 13 | 4 | 15 | 14 | 7 | 17 | 7 | 16 | 16 | 7 |
| Illinois | 88 | 60 | 95 | 83 | 124 | 16 | 14 | 17 | 14 | 21 | 21 | 15 | 19 | 17 | 24 |
| Indiana | 130 | 126 | 120 | 111 | 108 | 13 | 9 | 10 | 13 | 8 | 14 | 10 | 12 | 16 | 9 |
| Iowa | 55 | 42 | 44 | 28 | 32 | 7 | 7 | 8 | 4 | 8 | 8 | 8 | 8 | 4 | 8 |
| Kansas | 49 | 37 | 47 | 36 | 28 | 9 | 8 | 2 | 6 | 4 | 9 | 11 | 2 | 6 | 4 |
| Kentucky | 96 | 92 | 66 | 58 | 77 | 27 | 14 | 15 | 10 | 22 | 32 | 17 | 17 | 12 | 23 |
| Louisiana | 159 | 132 | 129 | 134 | 109 | 45 | 49 | 52 | 39 | 32 | 54 | 58 | 60 | 49 | 38 |
| Maine | 59 | 62 | 69 | 39 | 65 | 10 | 11 | 11 | 18 | 9 | 11 | 12 | 11 | 20 | 9 |
| Maryland | 161 | 194 | 224 | 173 | 188 | 11 | 18 | 12 | 21 | 15 | 12 | 20 | 16 | 25 | 15 |
| Massachusetts | 87 | 133 | 136 | 92 | 102 | 12 | 14 | 14 | 15 | 22 | 13 | 21 | 18 | 17 | 26 |
| Michigan | 396 | 435 | 357 | 315 | 322 | 51 | 49 | 25 | 30 | 28 | 57 | 55 | 30 | 34 | 32 |
| Minnesota | 165 | 161 | 174 | 162 | 147 | 22 | 17 | 21 | 15 | 15 | 31 | 18 | 23 | 16 | 17 |
| Mississippi | 81 | 72 | 55 | 57 | 72 | 24 | 20 | 13 | 13 | 22 | 26 | 23 | 19 | 17 | 23 |
| Missouri | 168 | 196 | 208 | 211 | 203 | 22 | 12 | 21 | 12 | 14 | 23 | 15 | 21 | 13 | 15 |
| Montana | 14 | 11 | 13 | 21 | 22 | 11 | 3 | 3 | 9 | 3 | 12 | 3 | 3 | 9 | 4 |
| Nebraska | 21 | 21 | 28 | 28 | 28 | 5 | 2 | 4 | 2 | 1 | 5 | 2 | 4 | 2 | 2 |
| Nevada | 54 | 85 | 104 | 89 | 121 | 6 | 4 | 3 | 4 | 4 | 7 | 8 | 4 | 7 | 4 |
| New Hampshire | 7 | 7 | 7 | 56 | 49 | 7 | 6 | 7 | 10 | 7 | 8 | 6 | 8 | 10 | 8 |
| New Jersey | 265 | 244 | 265 | 305 | 311 | 12 | 11 | 12 | 23 | 9 | 14 | 13 | 14 | 26 | 9 |
| New Mexico | 29 | 19 | 17 | 26 | 21 | 5 | 0 | 2 | 0 | 2 | 9 | 0 | 3 | 0 | 2 |
| New York | 277 | 300 | 301 | 284 | 295 | 35 | 28 | 31 | 25 | 24 | 42 | 37 | 38 | 33 | 26 |
| North Carolina | 130 | 102 | 135 | 152 | 123 | 24 | 22 | 24 | 24 | 29 | 27 | 28 | 26 | 25 | 33 |
| North Dakota | 11 | 11 | 10 | 7 | 3 | 0 | 2 | 2 | 1 | 0 | 0 | 3 | 2 | 1 | 0 |
| Ohio | 226 | 251 | 215 | 170 | 124 | 27 | 16 | 22 | 16 | 17 | 35 | 19 | 27 | 19 | 24 |
| Oklahoma | 78 | 52 | 45 | 50 | 72 | 14 | 17 | 14 | 12 | 12 | 19 | 26 | 20 | 13 | 15 |
| Oregon | 81 | 70 | 110 | 75 | 99 | 15 | 18 | 18 | 16 | 6 | 18 | 25 | 24 | 16 | 7 |
| Pennsylvania | 65 | 77 | 78 | 88 | 109 | 21 | 16 | 14 | 10 | 20 | 22 | 17 | 14 | 12 | 27 |
| Rhode Island | 52 | 49 | 82 | 57 | 30 | 3 | 4 | 2 | 7 | 3 | 3 | 5 | 2 | 9 | 4 |
| South Carolina | 78 | 109 | 91 | 79 | 105 | 30 | 29 | 27 | 26 | 26 | 33 | 29 | 31 | 31 | 32 |
| South Dakota | 23 | 17 | 13 | 19 | 12 | 3 | 2 | 1 | 4 | 1 | 3 | 4 | 2 | 5 | 1 |
| Tennessee | 78 | 86 | 82 | 67 | 76 | 25 | 22 | 12 | 22 | 20 | 29 | 26 | 13 | 25 | 26 |
| Texas | 312 | 300 | 276 | 249 | 218 | 66 | 72 | 63 | 67 | 43 | 76 | 83 | 72 | 78 | 51 |
| Utah | 108 | 91 | 97 | 71 | 82 | 8 | 5 | 4 | 1 | 3 | 8 | 8 | 4 | 1 | 4 |
| Vermont | 21 | 1 | 4 | 3 | 3 | 10 | 1 | 0 | 3 | 3 | 11 | 1 | 0 | 3 | 5 |
| Virginia | 107 | 100 | 94 | 118 | 134 | 19 | 17 | 22 | 26 | 21 | 21 | 19 | 27 | 26 | 24 |
| Washington | 147 | 171 | 135 | 141 | 163 | 16 | 33 | 25 | 17 | 30 | 20 | 36 | 28 | 21 | 36 |
| West Virginia | 25 | 27 | 28 | 24 | 18 | 6 | 7 | 8 | 8 | 3 | 6 | 7 | 10 | 10 | 3 |
| Wisconsin | 126 | 162 | 197 | 187 | 179 | 23 | 18 | 22 | 16 | 17 | 24 | 20 | 26 | 19 | 19 |
| Wyoming | 11 | 14 | 10 | 3 | 9 | 5 | 3 | 2 | 2 | 2 | 8 | 4 | 2 | 2 | 2 |
| Guam | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Puerto Rico | 2 | 24 | 23 | 20 | 13 | 0 | 6 | 2 | 4 | 3 | 0 | 8 | 2 | 8 | 4 |
| Virgin Islands | 18 | 12 | 2 | 0 | 13 | 2 | 2 | 1 | 0 | 1 | 4 | 3 | 1 | 0 | 1 |
| Am. Samoa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N. Marianas | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



TYPES OF BOATING ACCIDENTS - 1990

| | VESSELS INVOLVED | FATALITIES |
|--------------------------------|------------------|------------|
| TOTALS | 8,591 | 865 |
| Grounding | 390 | 14 |
| Capsizing | 545 | 289 |
| Swamping/Flooding | 252 | 60 |
| Sinking | 210 | 11 |
| Fire/Explosion (fuel) | 274 | 14 |
| Fire/Explosion (other) | 97 | 2 |
| Collision with another vessel | 4,422 | 81 |
| Collision with fixed object | 864 | 76 |
| Collision with floating object | 262 | 13 |
| Falls overboard | 451 | 239 |
| Falls within boat | 139 | 1 |
| Struck by boat or propeller | 191 | 7 |
| Other | 470 | 29 |
| Unknown | 24 | 29 |

Type of accident refers only to the first event that occurred. Some accidents involve more than one event. A grounding followed by a sinking is counted only as a grounding even though the sinking may have directly led to a fatality.

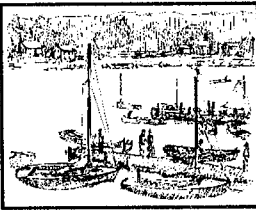
We estimate that we receive reports for only a small fraction of all non-fatal accidents.

REPORTING OF ALCOHOL INVOLVEMENT

Historically, the reporting of alcohol involvement in recreational boating accidents has been lower than expected. Beginning in 1987 the recommended Boating Accident Report (BAR) form contained a block for indicating the involvement of alcohol in the accident. Obviously operators are not motivated to report themselves as having had alcohol before a boating accident occurred. Many BAR's are filed by law enforcement officials, who should not have failed to report the involvement of alcohol.

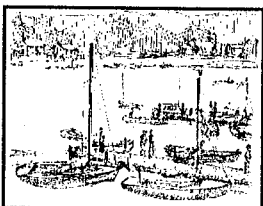
A study of fatalities in four States (California, Maryland, New Jersey, and North Carolina) showed that 51% of the fatalities had a BAC (Blood Alcohol Content) of .04 or more. BAC's of .10 or more were found in 31% of the fatalities. These States were chosen because they already collected BAC information for a significant number of fatalities.

The table at right shows alcohol involvement reporting for the last three years. These statistics include all victims in an alcohol-related accident, even if the victim, or operator of the boat carrying the victim, did not use alcohol. The total in Boating Statistics 1989 included only victims on the boat having an operator who used alcohol.



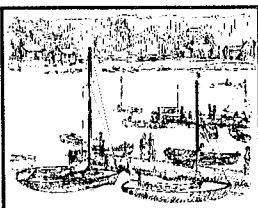
ALCOHOL INVOLVEMENT IN BOATING ACCIDENTS 1988 - 1990

| | FATALITIES | | | INJURIES | | | BOATING ACCIDENT REPORTS WITH ALCOHOL INVOLVED | | |
|-------------------|------------|------------|------------|------------|------------|------------|---|------------|------------|
| | 1988 | 1989 | 1990 | 1988 | 1989 | 1990 | 1988 | 1989 | 1990 |
| TOTAL | 146 | 144 | 134 | 356 | 381 | 549 | 511 | 486 | 568 |
| Alabama | 3 | 3 | 6 | 11 | 7 | 8 | 9 | 7 | 12 |
| Alaska | 6 | 7 | 3 | 0 | 0 | 0 | 12 | 5 | 3 |
| Arizona | 1 | 0 | 0 | 11 | 6 | 6 | 10 | 3 | 5 |
| Arkansas | 1 | 3 | 2 | 2 | 11 | 1 | 8 | 9 | 6 |
| California | 3 | 6 | 2 | 8 | 10 | 15 | 31 | 16 | 18 |
| Colorado | 0 | 2 | 5 | 4 | 2 | 6 | 6 | 3 | 5 |
| Connecticut | 2 | 0 | 2 | 5 | 0 | 4 | 7 | 0 | 8 |
| Delaware | 0 | 0 | 0 | 1 | 0 | 4 | 4 | 0 | 1 |
| Dist. of Columbia | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Florida | 12 | 7 | 27 | 88 | 94 | 125 | 75 | 91 | 135 |
| Georgia | 0 | 4 | 2 | 1 | 4 | 11 | 15 | 11 | 10 |
| Hawaii | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| Idaho | 3 | 0 | 1 | 9 | 0 | 0 | 6 | 0 | 2 |
| Illinois | 3 | 2 | 8 | 4 | 10 | 37 | 7 | 8 | 21 |
| Indiana | 2 | 6 | 3 | 2 | 14 | 13 | 15 | 19 | 22 |
| Iowa | 3 | 0 | 2 | 7 | 3 | 1 | 7 | 3 | 2 |
| Kansas | 1 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 3 |
| Kentucky | 4 | 0 | 1 | 1 | 5 | 3 | 5 | 1 | 4 |
| Louisiana | 5 | 3 | 6 | 12 | 14 | 11 | 8 | 14 | 8 |
| Maine | 0 | 3 | 0 | 4 | 1 | 1 | 9 | 5 | 1 |
| Maryland | 11 | 4 | 3 | 3 | 2 | 8 | 12 | 8 | 6 |
| Massachusetts | 3 | 6 | 2 | 13 | 7 | 11 | 7 | 9 | 5 |
| Michigan | 6 | 4 | 8 | 21 | 22 | 37 | 30 | 29 | 48 |
| Minnesota | 7 | 9 | 2 | 27 | 25 | 42 | 33 | 51 | 39 |
| Mississippi | 2 | 1 | 3 | 3 | 4 | 7 | 8 | 5 | 6 |
| Missouri | 2 | 4 | 4 | 15 | 10 | 29 | 13 | 16 | 23 |
| Montana | 1 | 3 | 0 | 0 | 0 | 3 | 0 | 3 | 1 |
| Nebraska | 0 | 0 | 0 | 2 | 2 | 2 | 1 | 3 | 2 |
| Nevada | 0 | 0 | 1 | 3 | 1 | 9 | 4 | 3 | 10 |
| New Hampshire | 2 | 5 | 0 | 0 | 5 | 0 | 0 | 7 | 1 |
| New Jersey | 1 | 1 | 0 | 8 | 8 | 7 | 10 | 11 | 11 |
| New Mexico | 0 | 0 | 0 | 2 | 1 | 3 | 0 | 3 | 1 |
| New York | 5 | 2 | 5 | 10 | 15 | 35 | 22 | 18 | 24 |
| North Carolina | 4 | 4 | 4 | 6 | 18 | 16 | 6 | 16 | 15 |
| North Dakota | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ohio | 5 | 6 | 5 | 6 | 12 | 9 | 19 | 9 | 10 |
| Oklahoma | 2 | 2 | 0 | 2 | 1 | 1 | 7 | 3 | 3 |
| Oregon | 1 | 1 | 0 | 4 | 1 | 7 | 4 | 3 | 8 |
| Pennsylvania | 5 | 5 | 3 | 7 | 11 | 9 | 6 | 15 | 9 |
| Rhode Island | 0 | 1 | 1 | 2 | 1 | 0 | 2 | 3 | 2 |
| South Carolina | 4 | 3 | 1 | 4 | 1 | 7 | 5 | 6 | 4 |
| South Dakota | 0 | 1 | 0 | 0 | 3 | 0 | 4 | 3 | 1 |
| Tennessee | 3 | 6 | 2 | 6 | 1 | 0 | 7 | 6 | 4 |
| Texas | 6 | 2 | 2 | 9 | 4 | 11 | 15 | 8 | 7 |
| Utah | 0 | 0 | 0 | 0 | 11 | 4 | 1 | 2 | 2 |
| Vermont | 0 | 0 | 2 | 3 | 0 | 0 | 1 | 0 | 1 |
| Virginia | 8 | 6 | 3 | 11 | 6 | 12 | 9 | 15 | 13 |
| Washington | 8 | 8 | 10 | 5 | 15 | 7 | 17 | 21 | 21 |
| West Virginia | 2 | 5 | 0 | 4 | 5 | 1 | 3 | 4 | 3 |
| Wisconsin | 7 | 6 | 2 | 9 | 8 | 25 | 20 | 10 | 21 |
| Wyoming | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| Guam | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Puerto Rico | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| Virgin Islands | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| Am. Samoa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Northern Marianas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



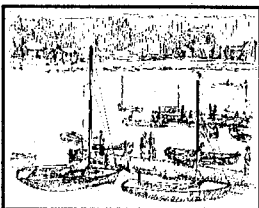
CAUSES OF BOATING ACCIDENTS - 1990

| | VESSELS INVOLVED | FATALITIES |
|---|------------------|------------|
| TOTALS | 8,591 | 865 |
| LOADING OF PASSENGERS OR GEAR | | |
| Overloading | 90 | 46 |
| Improper weight distribution | 50 | 32 |
| Sitting on gunwale, transom, bow, or back of seat | 28 | 11 |
| Movement of passengers | 9 | 8 |
| Hoisting or lowering of anchor | 1 | 1 |
| Leaning over edge of boat, moving or standing | 63 | 29 |
| FREE WATER IN BOAT | | |
| Water entered over gunwale, bow or transom | 88 | 6 |
| Water entered through hull | 112 | 10 |
| EQUIPMENT | | |
| Fuel system | 41 | 5 |
| Electrical system | 58 | 0 |
| Auxiliary power or heat equipment | 20 | 2 |
| Steering, throttle, or other non-power equipment | 345 | 13 |
| Improper navigation lights | 47 | 8 |
| Starting in gear | 1 | 1 |
| OPERATION OF VESSEL | | |
| High speed maneuver | 61 | 17 |
| Improper lookout | 2,681 | 38 |
| View obstructed | 42 | 2 |
| Inattention or carelessness | 285 | 95 |
| Other violation of the Rules of the Road | 23 | 6 |
| Speeding | 134 | 43 |
| Navigational error | 153 | 1 |
| ENVIRONMENT | | |
| Wake or wave striking vessel | 180 | 16 |
| Strong current, rough waters | 477 | 164 |
| Slippery surface or deck | 24 | 9 |
| Poor visibility | 31 | 2 |
| Submerged object | 455 | 23 |
| OTHER VESSEL AT FAULT | 1,682 | 30 |
| IGNITION OF SPILLED FUEL OR VAPOR | 109 | 6 |
| OTHER | 1,112 | 84 |
| UNKNOWN | 189 | 157 |



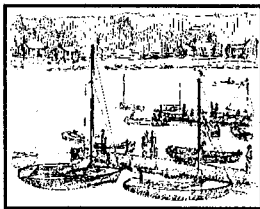
OPERATION AT TIME OF ACCIDENTS - 1990

| | VESSELS INVOLVED | FATALITIES |
|--|------------------|------------|
| TOTALS | 8,591 | 865 |
| Cruising | 4,163 | 317 |
| Cruising, fishing | 229 | 11 |
| Cruising, hunting | 10 | 0 |
| Cruising, sailing | 9 | 9 |
| Maneuvering | 521 | 30 |
| Maneuvering, docking | 364 | 1 |
| Maneuvering, leaving dock | 191 | 0 |
| Maneuvering, mooring | 0 | 0 |
| Maneuvering, for towing | 0 | 0 |
| Waterskiing | 808 | 30 |
| Waterskiing, maneuvering with skier down | 0 | 0 |
| Racing | 39 | 0 |
| Towing | 37 | 1 |
| Being towed | 21 | 2 |
| Drifting | 569 | 153 |
| Drifting, fishing | 196 | 156 |
| Drifting, hunting | 5 | 6 |
| Drifting, diving or swimming | 9 | 0 |
| Drifting, fueling | 4 | 0 |
| At anchor | 382 | 27 |
| At anchor, fishing | 65 | 9 |
| At anchor, hunting | 2 | 0 |
| At anchor, diving or swimming | 9 | 0 |
| At anchor, fueling | 8 | 0 |
| Tied to dock | 691 | 13 |
| Tied to dock, fueling | 15 | 1 |
| Other | 162 | 11 |
| Unknown | 82 | 88 |



VESSEL INFORMATION - 1990

| | | VESSELS INVOLVED | FATALITIES |
|----------------------|----------------------------------|------------------|------------|
| TOTALS | | 8,591 | 865 |
| TYPE OF BOAT | Open motorboat | 4,169 | 462 |
| | Cabin motorboat | 1,497 | 69 |
| | Auxiliary sailboat | 488 | 18 |
| | Sailboat only | 114 | 20 |
| | Rowboat | 99 | 69 |
| | Canoe or kayak | 125 | 90 |
| | Inflatable boat | 44 | 24 |
| | Houseboat | 102 | 2 |
| | Personal Watercraft | 1,156 | 29 |
| | Other | 267 | 18 |
| | Unknown | 530 | 64 |
| HULL MATERIAL | Wood | 271 | 26 |
| | Aluminum | 899 | 270 |
| | Steel | 55 | 7 |
| | Fiberglass | 6,687 | 411 |
| | Rubber, vinyl, canvas | 60 | 27 |
| | Other | 13 | 3 |
| | Unknown | 606 | 121 |
| PROPULSION | Outboard | 3,073 | 454 |
| | Inboard gasoline | 1,658 | 42 |
| | Inboard diesel | 293 | 8 |
| | Inboard-outboard | 1,757 | 53 |
| | Jet | 760 | 25 |
| | Sail | 114 | 20 |
| | Manual (oars, paddle) | 248 | 182 |
| | Other | 53 | 5 |
| | Unknown | 635 | 76 |
| HORSEPOWER | No engine | 366 | 202 |
| | 10 hp or less | 317 | 90 |
| | 11-25 hp | 364 | 76 |
| | 26-75 hp | 1,411 | 116 |
| | Over 75 hp | 4,179 | 179 |
| | Unknown | 1,954 | 202 |
| YEAR BUILT | 1990 | 719 | 31 |
| | 1989 | 1,043 | 41 |
| | 1987-1988 | 1,191 | 68 |
| | 1985-1986 | 778 | 22 |
| | 1982-1984 | 634 | 30 |
| | 1977-1981 | 1,010 | 89 |
| | Prior to 1977 | 1,797 | 195 |
| | Unknown | 1,419 | 389 |
| LENGTH | Less than 16 feet | 1,874 | 366 |
| | 16 feet to less than 26 feet | 4,333 | 327 |
| | 26 feet to less than 40 feet | 978 | 28 |
| | 40 feet to not more than 65 feet | 366 | 8 |
| | More than 65 feet | 18 | 0 |
| | Unknown | 1,022 | 136 |

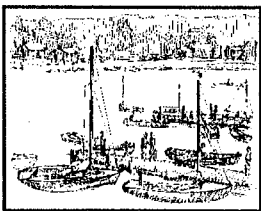


OPERATOR INFORMATION - 1990

| | | VESSELS INVOLVED | FATALITIES |
|--|------------------------------------|------------------|------------|
| TOTALS | | 8,591 | 865 |
| AGE OF OPERATOR | Under 12 years | 33 | 2 |
| | 12 to 18 years | 531 | 39 |
| | 19 to 25 years | 1,236 | 92 |
| | 26 to 50 years | 4,263 | 409 |
| | Over 50 years | 1,154 | 193 |
| | Unknown | 796 | 130 |
| | No Operator | 578 | 0 |
| OPERATOR'S EXPERIENCE | Less than 20 hours | 924 | 84 |
| | 20 to 100 hours | 1,226 | 113 |
| | 100 to 500 hours | 1,697 | 94 |
| | Over 500 hours | 2,327 | 133 |
| | Unknown | 1,839 | 441 |
| | No Operator | 578 | 0 |
| NUMBER OF PERSONS ON BOARD | None | 526 | 0 |
| | One | 1,884 | 185 |
| | Two | 2,163 | 307 |
| | Three | 1,128 | 142 |
| | Four | 944 | 94 |
| | Five | 569 | 31 |
| | Six | 318 | 28 |
| | Seven | 150 | 14 |
| | Eight | 91 | 7 |
| | Nine | 42 | 4 |
| | Ten | 22 | 3 |
| | More than 10 | 33 | 3 |
| | Unknown | 721 | 47 |
| FORMAL INSTRUCTION OF OPERATOR ¹ | USCG Auxillary | 748 | 22 |
| | US Power Squadrons | 366 | 8 |
| | American Red Cross | 128 | 7 |
| | State | 290 | 5 |
| | Other | 821 | 57 |
| | None | 3,753 | 306 |
| | Unknown | 1,909 | 460 |
| | No Operator | 576 | 0 |
| FAULT OF OPERATOR ² | Did contribute | 4,315 | 461 |
| | Did not contribute | 3,964 | 239 |
| | Not determined | 312 | 165 |
| PERSONAL FLOTATION DEVICES | Insufficient or no PFD's on board | 150 | 175 |
| | Approved, accessible, used | 2,515 | 80 |
| | Approved, accessible, not used | 3,295 | 359 |
| | Approved, not accessible | 168 | 6 |
| | Not approved, accessible, used | 9 | 1 |
| | Not approved, accessible, not used | 0 | 0 |
| | Not approved, not accessible | 0 | 0 |
| | Other | 0 | 0 |
| | Unknown | 2,454 | 244 |

¹ Formal instruction of operator implies that some education has been received, but not necessarily that a course was successfully completed.

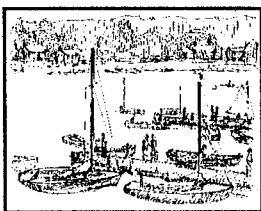
² Operator fault is largely a subjective judgement. If at any point in the chain of events leading up to an accident, the operator, by action or inaction contributes to the casualty, then the accident is coded, "Fault of Operator Did Contribute." If an accident occurs because of factors outside the control of the operator, then the accident is coded, "Fault of Operator Did Not Contribute."



WEATHER AND WATER CONDITIONS - 1990

| | | VESSELS INVOLVED | FATALITIES |
|--------------------------------|---|------------------|------------|
| TOTALS | | 8,591 | 865 |
| TYPE OF BODY OF WATER | Ocean/Gulf | 420 | 35 |
| | Great Lakes (not tributaries) | 80 | 38 |
| | Bays, inlets, sounds, harbors, Intracoastal waterways | 1,406 | 80 |
| | Rivers, streams, creeks | 2,173 | 282 |
| | Lakes, ponds, reservoirs, dams, gravel pits | 3,979 | 423 |
| | Other | 485 | 1 |
| | Unknown | 48 | 6 |
| WATER CONDITIONS | Calm | 4,664 | 376 |
| | Choppy | 2,465 | 144 |
| | Rough | 677 | 89 |
| | Very rough | 247 | 66 |
| | Strong current | 292 | 77 |
| | Unknown | 246 | 113 |
| WIND | None | 1,257 | 115 |
| | Light | 4,392 | 322 |
| | Moderate | 1,805 | 141 |
| | Strong | 611 | 104 |
| | Storm | 216 | 44 |
| | Unknown | 310 | 139 |
| VISIBILITY ¹ | Good | 6,723 | 519 |
| | Fair | 337 | 51 |
| | Poor | 134 | 17 |
| | Dark | 1,147 | 157 |
| | Unknown | 250 | 121 |
| WATER TEMPERATURE | Below 40 degrees F | 56 | 24 |
| | 40-49 degrees F | 252 | 76 |
| | 50-59 degrees F | 667 | 95 |
| | 60-69 degrees F | 1,862 | 157 |
| | 70-79 degrees F | 2,579 | 140 |
| | 80-89 degrees F | 1,213 | 82 |
| | 90 degrees F and above | 49 | 2 |
| | Unknown | 1,913 | 289 |

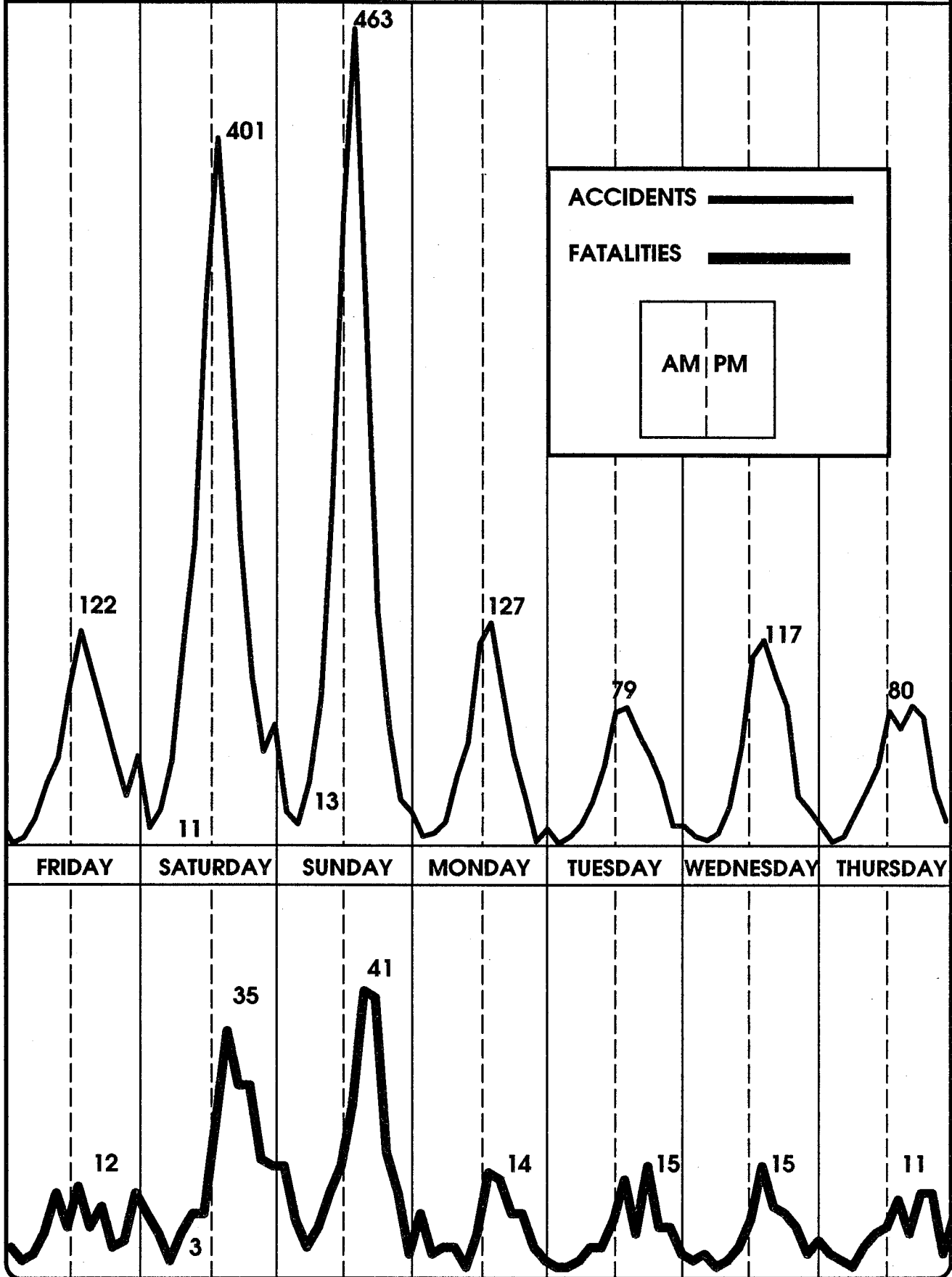
¹ Accidents are now coded "dark" when they occur at night even if the visibility is reported "good," "fair," or "poor."



MISCELLANEOUS DATA - 1990

| | | VESSELS INVOLVED | FATALITIES |
|----------------------|----------------------|------------------|------------|
| TOTALS | | 8,591 | 865 |
| TIME OF DAY | Midnight to 2:30 am | 240 | 37 |
| | 2:30 am to 4:30 am | 59 | 18 |
| | 4:30 am to 6:30 am | 78 | 10 |
| | 6:30 am to 8:30 am | 191 | 26 |
| | 8:30 am to 10:30 am | 451 | 41 |
| | 10:30 am to 12:30 pm | 811 | 54 |
| | 12:30 pm to 2:30 pm | 1,570 | 109 |
| | 2:30 pm to 4:30 pm | 1,902 | 114 |
| | 4:30 pm to 6:30 pm | 1,406 | 118 |
| | 6:30 pm to 8:30 pm | 850 | 78 |
| | 8:30 pm to 10:30 pm | 484 | 44 |
| | 10:30 pm to midnight | 239 | 43 |
| | Unknown | 310 | 173 |
| MONTH OF YEAR | January | 113 | 25 |
| | February | 189 | 47 |
| | March | 296 | 52 |
| | April | 566 | 91 |
| | May | 908 | 118 |
| | June | 1,482 | 136 |
| | July | 2,078 | 133 |
| | August | 1,396 | 105 |
| | September | 961 | 72 |
| | October | 327 | 37 |
| | November | 157 | 25 |
| | December | 118 | 24 |
| | Unknown | 0 | 0 |
| DAY OF WEEK | Friday | 818 | 98 |
| | Saturday | 2,469 | 210 |
| | Sunday | 2,482 | 231 |
| | Monday | 776 | 93 |
| | Tuesday | 608 | 77 |
| | Wednesday | 787 | 74 |
| | Thursday | 651 | 82 |
| | Unknown | 0 | 0 |
| RENTED | Boat was rented | 568 | 41 |
| | Boat was not rented | 7,081 | 715 |
| | Unknown | 942 | 109 |

FATALITIES AND ACCIDENTS DURING THE WEEK - 1990



U. S. COAST GUARD AUXILIARY

The Coast Guard Auxiliary was established by Congress as a civilian volunteer, non-military organization, to promote safety in recreational boating in the United States. It is comprised of approximately 34,000 members who are experienced boaters, amateur radio operators, or licensed aircraft pilots. Auxiliarists take pride in the fact that they are known for the promotion of safe boating by setting a good example. Auxiliarists' boats must be equipped and maintained to high standards of safety which exceed the requirements of federal law for recreational motorboats. To accomplish its mission the Auxiliary carries out three basic programs: Courtesy Marine Examinations (CME), Public Education and Operations.

Courtesy Marine Examination (CME). Specially-trained members of the Auxiliary are authorized to conduct Courtesy Marine Examinations of recreational boats upon the request and consent of the owners or operators. This is a check of the boat's safety-related equipment covering both the requirements of federal and state law and certain additional criteria for safety which have been adopted by the Auxiliary. Boats meeting these criteria are awarded the respected Auxiliary CME decal "Seal of Safety." If a boat does not pass the examination, the owner is advised of the deficiencies, but no report is made to any law enforcement official. This examination is in effect a form of boater education - a one-on-one exchange of boating safety information.

Public Education. The Auxiliary offers the public an array of boating safety courses, each tailored to a specific need. There are courses for both sailing and power boating - novice and expert. Courses are taught by experienced Auxiliarists using slides, movies, and demonstrations. The multi-lesson "Sailing and Seamanship" and the "Boating Skills and Seamanship" courses cover basic knowledge of Aids to Navigation, Rules of the Road, Boat Handling, Legal Requirements, Marine Engines, Marlinspike Seamanship, Communications, Weather, Locks and Dams, and more. Boaters are also offered a multi-lesson "Advanced Coastal Navigation" course. Youngsters can enjoy the "Water'N Kids" coloring book presentation.

Operations. To assist the U. S. Coast Guard, members of the Auxiliary perform search and rescue missions, patrol regattas and marine events, and add a large measure of safety to the nation's waterways by their safety patrols. These Auxiliary operations are often performed in conjunction with regular Coast Guard units.

The Coast Guard Auxiliary reports the following achievements in calendar year 1990:

| | |
|--|----------------------|
| Persons enrolled in public safe boating courses | 335,034 |
| Courtesy Marine Examinations conducted | 278,706 |
| Safety patrols | 29,656 |
| Support missions for Coast Guard | 31,480 |
| Assists to the public | 8,418 |
| Regatta patrols | 2,968 |
| Persons assisted | 21,179 |
| Lives saved | 409 |
| Value of property saved/assisted | \$246,724,000 |

Membership. Men and women interested in the these programs are encouraged to apply for membership in the Auxiliary. For further information please contact the nearest Coast

Guard or Auxiliary unit or write to Commandant (G-NAB-1), U. S. Coast Guard Headquarters, Washington, D. C. 20593-0001, or call (800) 368-5647.

BOATING SAFETY EDUCATION

The Coast Guard supports a national program to educate the public in safe boating practices. It serves as the focal point for information for all government agencies, Federal and State, and national non-profit organizations with boating programs. As a part of this process, organizations are encouraged to share information and resources to develop and conduct programs to promote boating safety.

The Boating Safety Education Branch serves as the liaison with national organizations and coordinates events with the National Safe Boating Council such as the National Boating Education Seminar and the National Safe Boating Campaign. Such programs are designed to keep boating educators current and to foster a greater awareness of boating safety issues on the part of the boating public. In addition, a similar liaison is conducted with State agencies through the National Association of State Boating Law Administrators Education Committee. The National Boating Safety Course at the Reserve Training Center at Yorktown, Virginia is offered to train State enforcement and education personnel.

Education materials are developed and distributed through the network of Federal, national, and State organizations. Schools, civic groups, and local boating organizations are encouraged to contact Coast Guard District Boating Safety Offices, the Coast Guard Auxiliary and their State Boating Education Coordinator for assistance in planning and organizing a boating safety presentation or program. Individuals seeking safety information should call the Boating Safety Hotline, (800) 368-5647.

BOATING SAFETY AND PRODUCT ASSURANCE

The Recreational Boating Safety Program ensures that boats sold to the public meet Coast Guard regulations by monitoring the activities of the recreational boat builder through a Coast Guard factory inspection program and testing sample boats purchased on the open market. Manufacturers are required to correct any boats found to be in violation of the regulations. The Boating Safety Circular is published to provide boat manufacturers and dealers with the latest information on safety.

Some boats and marine products are found to have defects which create a substantial risk of personal injury to the public. Such defects are required to be repaired or corrected at the boat manufacturers' expense. Most of the defects investigated to date have been reported voluntarily by the manufacturers. Consumer complaints are also investigated and can result in an order for a manufacturer to repair a defect. Ordinary warranty problems are not covered by these rules. Suspected boat or equipment defects may be reported to the Recreational Boating Product Assurance Branch by writing:

Commandant (G-NAB-6)
U. S. Coast Guard
2100 2nd Street, SW
Washington, DC 20593-0001

In addition to the more visible activities carried out by the Coast Guard on behalf of recreational boating safety, the Recreational Boating Product Assurance Program has been working with voluntary standards organizations to investigate and highlight elements of boat and associated equipment construction that could be improved and/or standardized to reduce the probability of an accident occurring.

CONSUMER INFORMATION & ASSISTANCE

A Consumer Affairs and Analysis Branch provides a central point of contact at Coast Guard Headquarters where users of Coast Guard services can go with questions or complaints concerning Coast Guard programs and policies. Although situated to deal primarily with the Coast Guard's Recreational Boating Safety Program, the staff will assist consumers who want information, or need help in resolving problems, in other public-oriented Coast Guard programs (e.g. vessel documentation, commercial vessel operator licenses, aids to navigation services, drawbridge operations, water pollution, search and rescue services, and vessel boardings for law enforcement purposes).

The Consumer Affairs and Analysis Branch produces and distributes information on Coast Guard activities and policies through press releases, media articles, a consumer column in the Boating Safety Circular, and a series of Coast Guard Consumer Fact Sheets. The Fact Sheets cover specific topics of current interest to consumers (e.g. Pros & Cons of Documenting a Boat, Marine Sanitation Devices on Boats, Sources of Boating Safety Education, etc.). Single copies of the Boating Safety Circular and the Fact Sheets are available at no charge.

The Consumer Affairs and Analysis Branch also operates a toll-free Boating Safety Hotline (telephone: (800)-368-5647). The Hotline is designed to: (1) Tell boat owners and buyers whether a particular boat model has been involved in a safety recall (in some recalls, manufacturers are only able to notify a small percentage of current owners); (2) Take reports from owners concerning safety problems they are experiencing in their boats to determine if a safety recall is warranted; (3) Take feedback or comments from recreational boaters concerning Coast Guard law enforcement boardings; and (4) Answer questions on boating safety.

The Consumer Affairs and Analysis Branch can be contacted on the Boating Safety Hotline (telephone: (800)-368-5647; in the Washington, D.C. area, 267-0780) or by writing to:

Commandant (G-NAB-5)
U. S. Coast Guard
2100 2nd Street, SW
Washington, DC 20593-0001

Located at Coast Guard Headquarters in Washington, DC, the Hotline is in operation Monday through Friday from 8:00 a.m. to 4:00 p.m. eastern time.

BOATING SAFETY REGULATIONS

The following are regulations issued by the Coast Guard under the authority of Title 46, U.S. Code:

1. Especially Hazardous Conditions, 33 CFR 177. Describes specific unsafe boating conditions in which use of a boat could be especially dangerous. Issued July 7, 1972; effective August 7, 1972.
2. Defect Notification, 33 CFR 179. Requires manufacturers to notify consumers of safety defects in boats and associated equipment. Issued August 4, 1972; effective September 3, 1972.
3. Manufacturer Requirements, 33 CFR 181. Requires certification of compliance for manufacturers of recreational boats subject to federal standards. Also requires manufacturers to assign hull identification numbers to their boats. Issued August 4, 1972; effective November 1, 1972.
4. Boat and Associated Equipment Standards, 33 CFR 183. Requires basic flotation and sets load and horsepower capacities for boats under twenty feet in length. Issued August 4, 1972; effective November 1, 1972, except for the flotation standard, effective August 1, 1973.
5. Vessel Numbering and Accident Reporting, 33 CFR 173 & 174. Establishes uniform system for registering and numbering boats with propulsion machinery. Establishes procedures for reporting boating accidents. Issued October 7, 1972; effective July 1, 1973.
6. Personal Flotation Devices, 33 CFR 175. Establishes new requirements for carriage of personal flotation devices (PFDs). Classifies PFDs into types I, II, III, IV, and V to indicate the general level of performance. Issued March 28, 1973; effective October 1, 1973.
7. Hazardous Bars, 33 CFR 177. Defines unsafe boating conditions which can exist in certain coastal bars and inlets in Oregon and Washington. Issued January 23, 1974; effective February 22, 1974.
8. Manifestly Unsafe Voyage, 33 CFR 177. Defines unsafe conditions that can exist for recreational boats in prolonged open-sea voyages. Issued March 18, 1974; effective April 17, 1974.
9. Amendment to Inboard Safe Loading Standard, 33 CFR 183. Relaxes the safe loading standard for inboard boats, particularly as it applies to high performance boats. Issued August 13, 1975; effective February 9, 1976.
10. Amendment to Safe Loading and Safe Powering Standards, 33 CFR 183. Clarifies terms in the standards that had been misunderstood, e.g., "level", "beam", "length". Issued September 23, 1975; effective March 23, 1976.
11. Amendment to Flotation Standard, 33 CFR 183. Amends the table used to calculate the weight of outboard engines. Adds a new category of outboard engines over 150 HP. Issued March 18, 1976; effective September 15, 1976.
12. Amendment to Coast Guard Procedural Rules, 33 CFR 1. Describes the procedure followed by the Coast Guard in issuing written warnings to boat operators for minor violations of boating safety laws or regulations. Issued April 29, 1976; effective April 29, 1976.
13. Amendment to Numbering Regulations, 33 CFR 173 and 174. Updates information in the numbering regulations. Primarily, notes that the District of Columbia and Guam have approved numbering systems. Issued June 10, 1976; effective June 10, 1976.
14. Amendment to U. S. Customs Service Regulations, 33 CFR 12. (A joint Treasury - Coast Guard regulation.) Ensures that imported boats and associated equipment which are not in compliance with safety standards and regulations are brought into compliance before being used or offered for sale. Issued June 10, 1976; effective July 12, 1976.
15. Amendment to PFD Regulations, 33 CFR 175. Revokes the provision which permits a person using a white water canoe or kayak to use a non-approved life saving device because approved PFDs that are suitable for white water use became available. Issued June 14, 1976; effective October 1, 1977.
16. Amendment to Safe Loading and Flotation Standards, 33 CFR 183. Clarifies the meaning of certain terms in the standards, e.g. "boat weight" and "permanent appurtenances". Excepts submersible boats, surface effect vehicles, and amphibious vehicles from the flotation standard. Issued January 13, 1977; effective July 22, 1977.
17. Amendment to Safe Loading Requirements for Low- and Non-Powered Boats, 33 CFR 183. Establishes a more reasonable formula for calculating the safe loading capacity of low-powered and non-powered boats, e.g. dinghies, dories, rowboats. Issued January 13, 1977; effective July 22, 1977.

18. Fuel and Electrical Standards for Boats, 33 CFR 183. Establishes fuel and electrical standards for the manufacture of boats using inboard gasoline engines for propulsion or electrical power in order to prevent fires and explosions. Issued January 31, 1977; effective dates of the requirements vary from August 1, 1977 to August 1, 1978.

19. Flotation Standards for Boats, 33 CFR 183. Establishes level flotation standards on rowboats and outboard boats less than 20 feet in length, the boats most often involved in swamping and capsizing accidents, so that the boat will float level when swamped and provide a safe platform until rescue. Issued April 18, 1977; effective August 1, 1978.

20. Amendment to Fuel and Electrical Standards for Boats, 33 CFR 183. Revises several broad or unnecessary requirements. Issued July 14, 1977; effective August 1, 1977.

21. Personal Flotation Device Pamphlet, 33 CFR 181. Requires manufacturers of personal flotation devices (PFD) to provide with each PFD a pamphlet containing information on the selection, care, and proper use of PFDs. Issued March 9, 1977; effective September 1, 1978.

22. U. S. - Canadian Agreement on Assignment of Hull Identification Numbers, 33 CFR 181. Advises of an agreement between the U. S. and Canadian Coast Guards to coordinate assignment of manufacturers ID codes in hull identification numbers (HIN), allowing a boat manufacturer to use the same HIN system when marketing boats in U. S. and Canada. Issued April 10, 1978; effective April 10, 1978.

23. Amendment to Numbering Regulations, 33 CFR 173. Permits owners of leased or chartered vessels to retain the certificate of number when the rental is for less than seven days. Issued April 27, 1978; effective April 27, 1978.

24. Amendment to Fuel Systems Standard, 33 CFR 183. Delayed the effective date of fuel pump and carburetor requirements from August 1, 1978 to February 1, 1979 to give industry more time to comply with the new regulations. Issued September 17, 1978; effective September 17, 1978.

25. Amendment to Electrical Systems Standard, 33 CFR 183. Delayed the effective date of ignition protection requirements from August 1, 1978 to February 1, 1979 to give industry more time to comply with the new regulations. Issued September 17, 1978; effective September 17, 1978.

26. Amendment to Flotation Systems Standard, 33 CFR 183. Allows use of flotation material that is not resistant to gasoline or other solvents if it is installed in a part of the boat where it will not come in contact with these liquids or vapors. Establishes performance specifications for flotation material to help manufacturers determine if their flotation material will meet the standard. Issued December 4, 1978; effective August 1, 1979.

27. Amendments to Numbering and Accident Reporting Regulations, 33 CFR 173 & 174. Clarifies circumstances of a reportable injury. Extends the time limit for reporting accidents that don't involve death or personal injury from 5 to 10 days. Increases the maximum property damage in a non-reportable accident from \$100 to \$200. Clarifies that the rulemaking authority must determine the causes of reported accidents. Issued January 25, 1979; effective February 26, 1979.

28. Amendments to Numbering and Accident Reporting Regulations, 33 CFR 174. Leaves to the states the manner in which an invalid number sticker must be removed, conditions under which the number and validation sticker must be removed; and content of the report required of the operator in case of death or disappearance. Issued July 19, 1979; effective August 20, 1979.

29. Amendment to Electrical System Standard, 33 CFR 183. Permits circuit breakers to be located up to 7 inches away from the power source, or up to 40 inches away if the conductor is additionally protected by a sheath or enclosed box, if it is physically impossible to locate the circuit breaker at the power source. Issued November 5, 1979; effective November 5, 1979.

30. Operator Requirement for Visual Distress Signals, 33 CFR 175. Requires operators of boats used on coastal waters to carry approved (for both day and night) visual distress signals, e.g. orange smokes, orange distress flags, flares, electric distress lights. Exempts boats used in approved regattas, open sailboats less than 26 feet, rowboats, canoes, and other boats under 16 feet in length during daylight hours. Issued December 17, 1979; effective January 1, 1981.

31. Ventilation Standard for Boats, 33 CFR 175 and 183. Requires closed compartments with gas engines, including generators, on boats built on or after August 1, 1980 to be ventilated by a blower system of a certain standard. Requires engine compartments, and in certain circumstances fuel tank compartments, to have natural ventilation. Requires operators of such boats to keep certain parts of the blower system operable. Issued December 17, 1979; effective August 1, 1980.

32. Amendment to Capacity Information Label on Boats, 33 CFR 183. Requires a bright yellow background on the label. Requires the capacity to be shown in number of persons as well as pounds on boats less than 20 feet in length. Adds a method to determine the number of persons that a boat can safely hold. Issued January 10, 1980; effective August 1, 1980.

33. Amendment to Visual Distress Signal Regulations to Accept Hand-Held Red Flares, 33 CFR 175. Adds hand-held red flares to the lists of visual distress signals (see item 30). Issued July 3, 1980; effective January 1, 1981.

34. Start-in-Gear Protection Devices on Outboard Motors, 33 CFR 181 & 183. Requires manufacturers of an outboard motor with 115 lbs. or more of static thrust (7-9 hp) to provide built-in start-in-gear protection in the outboard motor or a label stating that the outboard motor must be installed with a compatible remote control which contains the start-in-gear protection. All manufacturers of remote starting controls must affix a label to their controls telling whether or not the control system has start-in-gear protection. Dealers installing an outboard motor with the remote controls must insure that start-in-gear protection is provided. Issued January 15, 1981; effective August 1, 1982.

35. Application for Certificate of Numbers, Change in Required Contents, 33 CFR 174. No longer requires states to obtain information on date of birth and citizenship of vessel owners applying for Certificates of Number. Issued February 25, 1982; effective March 29, 1982.

36. Amendment to Visual Distress Signal Requirements, 33 CFR 175. Amendment clarifies the language concerning the carriage requirements. A revised table shows the approval numbers of acceptable pyrotechnic signal devices. A grandfather clause was inserted to allow pyrotechnic signal launchers manufactured before 1 January 1981 to be continued to be used in launching of approved signals. Issued June 7, 1982; Effective June 7, 1982.

37. Amendment to Correction of Especially Hazardous Conditions Aboard Boats, 33 CFR 177. Amendment is editorial in nature and reflects changes made in other Statutes cited by the "Hazardous Conditions" regulations. These changes include reference to the Inland Navigational Rules Act of 1980. Issued August 23, 1982; Effective August 23, 1982.

38. Amendment to Boat Hull Identification Numbers, 33 CFR 181. Amendment makes alteration or removal of the HIN more difficult; requires the placement of an additional HIN which will enable identification of the boat even if primary HIN is altered or removed; requires a single HIN format; and makes the removal or alteration of a HIN a violation of federal law. Issued September 9, 1983; Effective August 1, 1984.

39. Amendment to Electrical and Fuel System Standards, 33 CFR 183. Amendment repeals and revises standards determined to be no longer necessary. These changes were made after a review effort to lessen regulatory burden upon recreational boat manufacturers, while insuring that an adequate level of safety is maintained. The amendment makes numerous changes to regulations affecting batteries, conductors, overcurrent protection, fuel tanks, fuel stop valves, hose clamps, seals and gaskets, hose identification, and anti-siphon protection. Issued December 15, 1983. Effective June 11, 1984.

40. Amendment to Visual Distress Signal Requirements, 33 CFR 175. Amendment revises definition of "coastal waters" where visual distress signals are required to be carried on vessels. Issued February 27, 1984. Effective August 27, 1984.

41. Amendment to Certification, Safe Loading and Flotation Standards, 33 CFR 181 & 183. Amendment revises or removes sections of the regulations which have been determined to be no longer necessary or to have limited value in improving boating safety. Weights of outboard motors, which are used to determine safe loading capacities, are updated. The amount of flotation material required to be installed in boats is also revised. Issued October 5, 1984. Effective April 3, 1985.

42. Amendment to Certification, Safe Loading and Flotation Standards, 33 CFR 181 & 183. Amendment clarifies the intent of the regulations after the amendment issued October 5, 1984. Manufacturers of boats rating a maximum persons capacity of less than 550 pounds must not exceed the lesser calculated value obtained by performing the two tests described in §§ 183.39 & 183.41. Issued May 2, 1985. Effective May 2, 1985.

43. Amendment to Personal Flotation Devices, 46 CFR 160. This interim final rule establishes approval requirements for hybrid inflatable personal flotation devices (hybrid PFDs). Use of the approved hybrid PFDs is optional but, if carried, certain limitations apply. Issued August 22, 1985. Effective September 1, 1985 (except for §§ 160.077-25(a) & 160.077-25(e), whose effective dates will be published separately).

44. Amendment to Certification and Safe Powering Standards, 33 CFR 181 & 183. Amendment establishes a performance test as an alternative to the existing calculation method to allow higher horsepower capacities for certain high performance boats. The alternate test applies to recreational outboard boats 13 feet or less in length with remote wheel steering, a minimum 19-inch transom height or equivalent, and a capacity rating not to exceed two persons. Issued October 23, 1986. Effective August 1, 1987.

45. Amendment to Ventilation Standard, 33 CFR 183. Amendment removes the requirements for ventilation openings to face forward and for testing to show airflow. The requirements had virtually no impact on achieving necessary ventilation and their removal relieves a regulatory burden on recreational boat manufacturers. Issued October 23, 1986. Effective August 1, 1987.

46. Amendment to Fuel System Standard, 33 CFR 183. Amendment requires gasoline fuel hose installed in new recreational boats to meet the performance requirements of SAE Standard J1527DEC85 instead of SAE Standard J30C. The change responded to safety concerns about the effects of increasing levels of aromatics and alcohols in fuels on permeation rates and longevity of hose meeting SAE Standard J30C. Issued April 20, 1987. Effective October 17, 1987.

47. Operating a Vessel While Intoxicated 33 CFR 95, 173, 174, and 177. Rule sets independent Federal standards based on an individual's behavior and blood alcohol concentration (BAC) for determining whether an individual operating a recreational vessel is intoxicated. It adopts enacted State BAC standards. It amends regulations to require specific information on the role of alcohol or drugs in reports of boating casualties. It allows Coast Guard personnel to terminate the use of a vessel when the operator is under the influence of an intoxicant to the extent that further operation of the vessel creates an unsafe condition. Penalties include a civil penalty up to \$1,000 and a criminal penalty up to \$5,000, up to one year imprisonment, or both. Issued December 14, 1987. Effective January 13, 1988.

48. Amendment to Electrical System Standard and Incorporation by Reference, 33 CFR 183. Amendment revises electrical standards for new recreational boats by incorporating Underwriters Laboratories (UL) Standard 1426 - Cables for Boats - in lieu of a general reference to independent testing laboratories that is no longer considered useful, and by deleting UL Standard 83 - Thermoplastic Insulated Wires and Cables. The change added the UL listed boat cable standard (UL 1426) which is now widely used for marine cable installed in recreational boats and made minor changes to the list of other standards incorporated by reference in Part 183, to reflect current publication dates and one address change. Issued September 23, 1988. Effective March 22, 1989.

49. Amendment to Personal Flotation Device Pamphlet Requirements, 33 CFR 175 & 181. Updates PFD Pamphlet Requirements by incorporating by reference the PFD pamphlet design and packaging requirements in Underwriters Laboratories, Inc. (UL) Standard for Marine Buoyant Devices (UL 1123). The rule terminated an interim exemption for PFD manufacturers (issued February 23, 1989) on February 4, 1991. The rule also revised other PFD related sections to reflect approval of special purpose Type V PFDs, and removed an obsolete exemption from PFD carriage requirements for certain kayaks and canoes, prior to October 1, 1977. Issued August 6, 1990; effective February 4, 1991.

50. Exemption from Personal Flotation Device Pamphlet Requirements, 33 CFR 181. Exempts manufacturers subscribing to Underwriters Laboratories, Inc. (UL) Listing Services for Marine Buoyant Devices, Vests and Cushions from the burden of providing two pamphlets with each PFD, one under Coast Guard requirements and one under UL Standard 1123, while the Coast Guard conducts a rulemaking to update its PFD pamphlet requirements. Issued February 23, 1989; effective February 23, 1989.

51. Amendments to Numbering and Accident Reporting Regulations, 33 CFR 173. Corrected statutory citations and restatements of legislative text to reflect changes made in recodification of Title 46 of the United States Code. Updated the lists of issuing and reporting authorities to include additional State numbering and casualty reporting systems approved by the Coast Guard. Issued June 27, 1989; effective June 27, 1989.

52. Amendment to Personal Flotation Device Pamphlet Requirements, 33 CFR 175 & 181. Updates PFD Pamphlet Requirements by incorporating by reference the PFD pamphlet design and packaging requirements in Underwriters Laboratories, Inc. (UL) Standard for Marine Buoyant Devices (UL 1123). The rule terminated an interim exemption for PFD manufacturers (issued February 23, 1989) on February 4, 1991. The rule also revised other PFD related sections to reflect approval of special purpose Type V PFDs, and removed an obsolete exemption from PFD carriage requirements for certain kayaks and canoes, prior to October 1, 1977. Issued August 6, 1990; effective February 4, 1991.

GLOSSARY

At anchor - Held in place in the water by an anchor; includes "moored" to a buoy or anchored vessel and "dragging anchor".

Cabin motorboat - Motorboats with a cabin which can be completely closed by means of doors or hatches. Large motorboats with cabins, even though referred to as yachts, are considered to be cabin motorboats.

Capsizing - Overturning of a vessel. The bottom must become uppermost, except in the case of a sailboat, which lies on its side.

Collision with another vessel - Any striking together of two or more vessels, regardless of operation at time of the accident, is a collision. (Also includes colliding with the tow of another vessel, regardless of the nature of the tow, i.e., surfboard, ski ropes, skier, tow line, etc.)

Collision with fixed object - The striking of any fixed object, above or below the surface of the water.

Collision with floating object - Collision with any waterborne object above or below the surface that is free to move with the tide, current, or wind, except another vessel.

Cruising - Proceeding normally, unrestricted, with an absence of drastic rudder or engine changes.

Documented yacht - A vessel of five or more net tons owned by a citizen of the United States and used exclusively for pleasure with a valid marine document issued by the Coast Guard. Documented vessels are not numbered.

Drifting - Underway, but proceeding over the bottom without use of engines, oars or sails; being carried along only by the tide, current, or wind.

Fault of operator - Speeding; overloading; improper loading, not properly seating occupants of boat; no proper lookout; carelessness; failure to heed weather warnings; operating in a congested area; not observing the Rules of the Road; unsafe fueling practices; lack of experience; ignorance of aids to navigation; lack of caution in an unfamiliar area of operation; improper installation or maintenance of hull, machinery or equipment; poor judgment; recklessness; overpowering the boat; panic; proceeding in an unseaworthy craft; operating a motorboat near persons in the water; starting engine with clutch engaged or throttle advanced; irresponsible boat handling such as quick, sharp turns.

Fiberglass (plastic) hull - Hulls of fiber reinforced plastic. The laminate consists of two basic components, the reinforcing material (glass filaments) and the plastic or resin in which it is embedded.

Fire/explosion (fuel) - Accidental combustion of vessel fuel, liquids, including their vapors, or other substances, such as wood or coal.

Fire/explosion (other) - Accidental burning or explosion of any material on board except vessel fuels or their vapors.

Flooding - Filling with water, regardless of method of ingress, but retaining sufficient buoyancy to remain on the surface.

Fueling - Any stage of the fueling operation; primarily concerned with introduction of explosive or combustible vapors or liquids on board.

Grounding - Running aground of a vessel, striking or pounding on rocks, reefs, or shoals; stranding.

Improper loading - Loading, including weight shifting, of the vessel causing instability, limited maneuverability, or dangerously reduced freeboard.

Improper lookout - No proper watch; the failure of the operator to perceive danger because no one was serving as lookout, or the person so serving failed in that regard.

Inboard-outboard - Also referred to as inboard/outdrive. Regarded as inboard because the power unit is located inside the boat.

Maneuvering - Changing of course, speed, or similar boat handling action during which a high degree of alertness is required or the boat is imperiled because of the operation, i.e. docking, mooring, undocking, etc.

Motorboat - Any vessel equipped with propulsion machinery, not more than sixty-five feet in length.

Motor vessel - Any vessel equipped with propulsion machinery (other than steam) more than 65 feet long.

Numbered vessel - An undocumented vessel numbered by a state with an approved numbering system or by the Coast Guard under Chapter 123 of title 46, U.S.C.

Open Motorboat - Craft of open construction specifically built for operating with a motor, including boats canopied or fitted with temporary partial shelters.

Outboard - An engine not permanently affixed to the structure of the craft, regardless of the method or location used to mount the engine, e.g., motor wells, "kicker pits", motor pockets, etc.

Overloading - Excessive loading of the vessel causing instability, limited maneuverability, dangerously reduced freeboard, etc.

Personal Watercraft - Craft less than 13 feet in length designed to be operated by a person or persons sitting, standing or kneeling on the craft rather than within the confines of a hull.

Rules of the Road - Statutory and regulatory rules governing navigation of vessels.

Sailboat or auxiliary sailboat - Craft intended to be propelled primarily by sail, regardless of size or type.

Sinking - Losing enough buoyancy to settle below the surface of the water.

Speeding - Operating at a speed, possibly below the posted limit, above that which a reasonable and prudent person would operate under the circumstances.

Steel hull - Hulls of sheet steel or steel alloy, not those with steel ribs and wood, canvas, or plastic hull coverings.

Struck by boat or propeller - Striking of a victim who is outside of the boat, but not necessarily a swimmer.

Swamping - Filling with water, particularly over the side, but retaining sufficient buoyancy to remain on the surface.

Towing - Engaged in towing any vessel or object, other than a person.

Wood hull - Hulls of plywood, molded plywood, wood planking, or any other wood fiber in its natural consistency, including those of wooden construction that have been "sheathed" with fiberglass or sheet metal.

34

If more than 3 fatalities and/or injuries, attach additional form(s).

DECEASED

| | | | | | |
|------|---------|---------------|---|---|---|
| NAME | ADDRESS | DATE OF BIRTH | WAS VICTIM? [] Swimmer [] Non Swimmer | DEATH CAUSED BY [] Drowning [] Other [] DISAPPEARANCE | WAS PFD WORN? [] Yes [] No What Type? |
| NAME | ADDRESS | DATE OF BIRTH | WAS VICTIM? [] Swimmer [] Non Swimmer | DEATH CAUSED BY [] Drowning [] Other [] DISAPPEARANCE | WAS PFD WORN? [] Yes [] No What Type? |
| NAME | ADDRESS | DATE OF BIRTH | WAS VICTIM? [] Swimmer [] Non Swimmer | DEATH CAUSED BY [] Drowning [] Other [] DISAPPEARANCE | WAS PFD WORN? [] Yes [] No What Type? |

INJURED

| | | | | |
|------|---------|---------------|------------------|-------------------------------------|
| NAME | ADDRESS | DATE OF BIRTH | NATURE OF INJURY | MEDICAL TREATMENT [] Yes [] No |
| NAME | ADDRESS | DATE OF BIRTH | NATURE OF INJURY | MEDICAL TREATMENT [] Yes [] No |
| NAME | ADDRESS | DATE OF BIRTH | NATURE OF INJURY | MEDICAL TREATMENT [] Yes [] No |

ACCIDENT DESCRIPTION

DESCRIBE WHAT HAPPENED (Sequence of events. Include Failure of Equipment. If diagram is needed attach separately. Continue on additional sheets if necessary. Include any information regarding the involvement of alcohol and/or drugs in causing or contributing to the accident. Include any descriptive information about the use of PFD's.)

VESSEL NO. 2 (if more than 2 vessels, attach additional form(s)).

| | | |
|------------------|---------|-------------|
| Name of Operator | Address | Boat Number |
| Telephone Number | | Boat Name |
| Name of Owner | Address | |

WITNESSES

| | | |
|------|---------|------------------|
| Name | Address | Telephone Number |
| Name | Address | Telephone Number |
| Name | Address | Telephone Number |

PERSON COMPLETING REPORT

| | | |
|--|---------|------------------|
| SIGNATURE | Address | Telephone Number |
| QUALIFICATION (Check One) [] Operator [] Owner [] Investigator [] Other | | Date Submitted |

(do not use) - FOR REPORTING AUTHORITY REVIEW (use agency date stamp)

| | | |
|---|-----------------------------|---------------|
| Causes based on (check one) [] This report [] Investigation and this report [] Investigation [] Could not be determined | Name of Reviewing Office | Date Received |
| Primary Cause of Accident | Secondary Cause of Accident | Reviewed By |

BOATING ACCIDENT REPORT

ADDENDUM

FOR REPORTING AUTHORITY

NAME OF OPERATOR: _____ DATE OF ACCIDENT: _____

ALCOHOL

For operator and each passenger indicate:

| | | | | |
|-----------|--|---|--|----------------|
| OPERATOR | TEST FOR ALCOHOL TAKEN? [] YES [] NO | TYPE OF TEST [] BLOOD [] BREATH [] URINE [] OTHER | TEST RESULTS [] POSITIVE [] NEGATIVE | BAC _____ % |
| PASSENGER | TEST FOR ALCOHOL TAKEN? [] YES [] NO | TYPE OF TEST [] BLOOD [] BREATH [] URINE [] OTHER | TEST RESULTS [] POSITIVE [] NEGATIVE | BAC _____ % |
| PASSENGER | TEST FOR ALCOHOL TAKEN? [] YES [] NO | TYPE OF TEST [] BLOOD [] BREATH [] URINE [] OTHER | TEST RESULTS [] POSITIVE [] NEGATIVE | BAC _____ % |
| PASSENGER | TEST FOR ALCOHOL TAKEN? [] YES [] NO | TYPE OF TEST [] BLOOD [] BREATH [] URINE [] OTHER | TEST RESULTS [] POSITIVE [] NEGATIVE | BAC _____ % |
| PASSENGER | TEST FOR ALCOHOL TAKEN? [] YES [] NO | TYPE OF TEST [] BLOOD [] BREATH [] URINE [] OTHER | TEST RESULTS [] POSITIVE [] NEGATIVE | BAC _____ % |

DRUGS

For operator and each passenger indicate:

| | | |
|-----------|---|--------------------------------------|
| OPERATOR | TEST FOR DRUGS TAKEN? [] YES [] NO | RESULTS [] POSITIVE [] NEGATIVE |
| PASSENGER | TEST FOR DRUGS TAKEN? [] YES [] NO | RESULTS [] POSITIVE [] NEGATIVE |
| PASSENGER | TEST FOR DRUGS TAKEN? [] YES [] NO | RESULTS [] POSITIVE [] NEGATIVE |
| PASSENGER | TEST FOR DRUGS TAKEN? [] YES [] NO | RESULTS [] POSITIVE [] NEGATIVE |
| PASSENGER | TEST FOR DRUGS TAKEN? [] YES [] NO | RESULTS [] POSITIVE [] NEGATIVE |

NAME OF REVIEWING OFFICE

REVIEWED BY

U.S. Department
of Transportation

**United States
Coast Guard**

2100 Second St., S.W.
Washington, D.C. 20593

Postage and Fees Paid
United States
Coast Guard
DOT 514



Official Business
Penalty for Private Use \$300